CREALOGIX Group

Annual report

International expansion continues

Software & comp services

CREALOGIX has established a strong track record of delivering software solutions to the banking industry in Switzerland and is transitioning the business to international markets. FY18 numbers were below expectations, mainly due to the faster than anticipated switch to SaaS, which spreads out revenue. International revenues represent 57% of the total (50% in FY17). CREALOGIX acquired the 80% remainder of Elaxy BS&S in July, having acquired Innofis to target the Middle Eastern markets earlier this year. The stable, cash-generative nature of Elaxy BS&S balances the higher-risk, stronger growth profile of Innofis. Given the attractive industry dynamics, and with CREALOGIX ideally positioned to capitalise on these, the shares look attractive on c 21x our FY20e EPS.

Year end	Revenue (CHFm)	PBT* (CHFm)	EPS* (CHF)	DPS (CHF)	P/E (x)	Yield (%)
06/17	74.9	5.0	2.59	0.50	49.8	0.4
06/18	87.1	5.0	2.39	0.25	54.0	0.2
06/19e	110.2	8.1	4.09	0.75	31.5	0.6
06/20e	121.0	12.2	6.10	1.25	21.1	1.0

Note: *PBT and EPS are normalised, excluding amortisation of acquired intangibles, exceptional items and share-based payments.

Digital banking is in a very strong growth phase

Global digital banking is in a major growth phase, boosted by increasing use of smartphones and tablets, and pressure on banks to streamline their branches to reduce costs. These factors, along with regulatory requirements such as PSD2, are driving increasing spend on front-end systems by CREALOGIX customers. Gartner forecasts that global front-end system spend will rise to c 50% of banks' total IT spend by 2020 from c 10% in 2010.

FY18 results: Local currency revenue growth 13.1%

FY18 revenues grew by 13.1% at constant currencies (guidance was 10–15%) to CHF87.1m, while EBITDA eased by 3.8% to CHF7.0m. All new business in Germany has been on a recurring basis; had it been on a traditional licence basis, revenues would have been CHF3.8m higher. This was due to a greater than anticipated switch to SaaS, which meant that the 8.1% EBITDA margin was below the >10% management guidance. We have broadly maintained our forecasts, having cut them following the pre-announced results in August.

Valuation: 10% revenue CAGR with 15% operating margins would imply significant upside

A DCF scenario incorporating 10% organic revenue CAGR over 2019–29e falling thereafter to 2%, operating margins tapering up to a level of 15% from FY22e, along with a 9% WACC, would suggest a valuation of CHF217, 68% above the current share price. Increasing the margin target to 20% lifts the valuation to CHF284, while reducing the margin to 10% cuts it to CHF150. These valuations are after the dilution impact from the outstanding convertible bonds.

21 November 2018

Price	**CHF129**
Market cap	**CHF179m**
Net cash (CHFm) at 30 June 2018	11.4
Shares in issue	1.39m
Free float	37%
Code	CLXN
Primary exchange	Switzerland
Secondary exchange	N/A

Share price performance

%	1m	3m	12m
Abs	(2.1)	(6.6)	3.1
Rel (local)	(1.3)	(6.0)	7.3
52-week high/low		CHF100	CHF81

Business description

CREALOGIX Group provides digital banking technology solutions to banks, wealth managers and other financial services companies. The company's suite of solutions includes online and mobile banking, digital payments, digital learning and security.

Next events

German Equity Forum	26/27 November 2018
Interim results	19 March 2019

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Edison profile page

CREALOGIX Group is a research client of Edison Investment Research Limited

Investment summary: Digital banking innovator

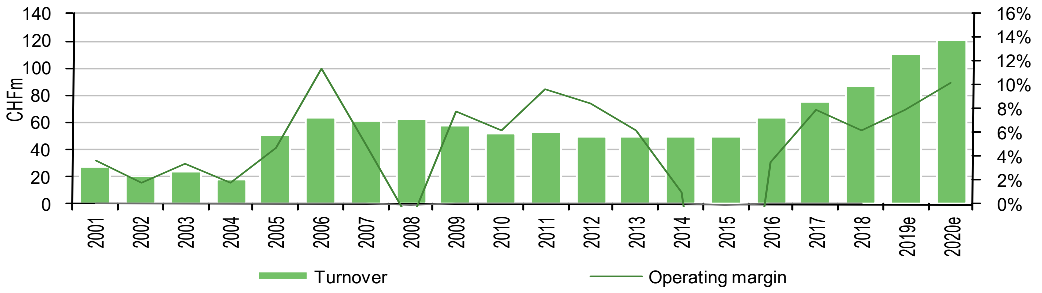
Company description: Global digital banking enabler

CREALOGIX is a global leader in digital banking solutions, ranked in IDC's global fintech top 100 list. Based in Zurich, it was founded in 1996 by Bruno Richle, Richard Dratva, Daniel Hiltebrand and Peter Süsstrunk. Mr Richle, Mr Dratva and Mr Süsstrunk continue to work with the company and together own c 36% of the share capital. With more than 700 employees, CREALOGIX provides front-end banking software solutions that operate through multiple channels (essentially mobile phones, tablets and PCs). It has a leading position in the Swiss market, where 11 of the 30 largest Swiss banks are exclusively using its core online/mobile applications. Its strategic aim is to internationalise. It has offices in Germany, Austria, Spain, the UK and Singapore, with plans to extend operations further in Asia and North America. 57% of FY18 sales were international and its medium-term target is to raise this to 70%.

Financials: FY18 margin dip, upward path is set to resume

CREALOGIX has recorded strong revenue growth and margin expansion since FY15, when it slipped into loss due to planned accelerated investment. However, margins dipped in FY18 due to a faster than anticipated switch to SaaS, which reduces upfront licence revenue. In FY18, all new customers in the key German market took the SaaS rental option. We forecast sales to rise by 26% in FY19, including full year contributions from the acquired Innofis and Elaxy BS&S. We forecast margins to rise above 10% due to the higher margin acquisitions and increased scale. End-June net cash was CHF11.4m; we forecast this to ease slightly in FY19 after the payment for Elaxy BS&S, then jump in FY20 to CHF28.9m on the assumption that the remaining bonds convert.

Exhibit 1: Revenue and operating margin trends



Source: CREALOGIX (historics), Edison Investment Research (forecasts)

Sensitivities: Fintech competition and budget deferrals

Economic and regulatory uncertainties, including Brexit, could defer investment decisions by CREALOGIX'S customers and slow the pace of change in its traditional banking sector customer base. There is a competitive risk that nimble fintechs and challenger banks could make a bigger inroad into the traditional banking sector, where consolidation could also reduce the potential customer base. Major back-end software vendors and ERP software providers could become more active in the front end, while specialist direct competitors could develop better solutions or more attractive business models. There is execution and integration risk in the acquisition strategy and increasing currency risk as the company expands abroad.

Valuation: Heavily invested high-growth fintech

The stock trades on 31.5x our earnings in FY19e, which falls to 21.1x in FY20e and to c 16.7x in FY21e. The FY20e rating is a small premium to the peer group, which reflects the strong growth rates and potential for driving margins significantly higher, with the R&D/sales ratio (FY18: 21%) expected to decline as the business gains scale.

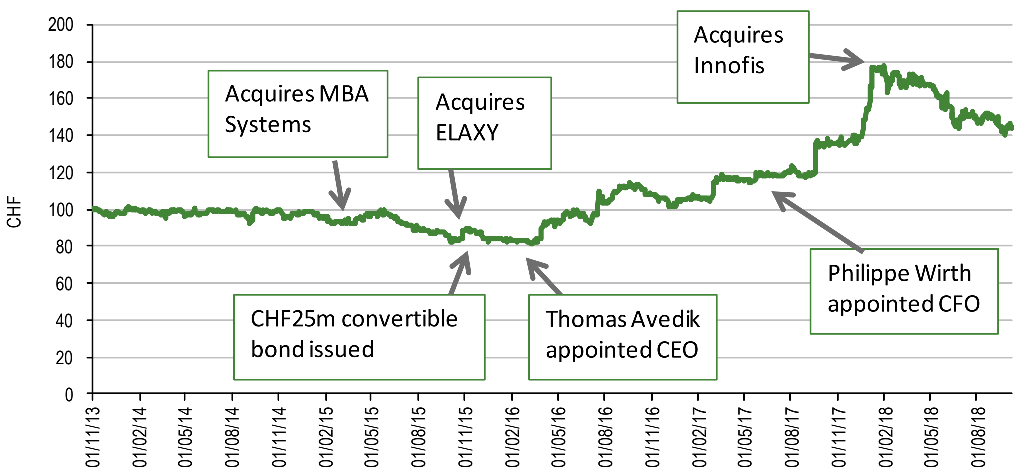
Company description: Digital banking enabler

CREALOGIX develops and implements software solutions that enable digital banking for 'the digital bank of tomorrow'. This market is dynamic and fast changing, and the group's solutions are typically used by traditional banks to enable their journey to digitalisation, through the provision of a sophisticated, modern, omni-channel offering to their clients. The group's products are front-end solutions that integrate with the customer's back-end systems, such as a core banking system from Temenos, Avaloq or Infosys. CREALOGIX's primary target customers are traditional retail, commercial and wealth banks that need to upgrade their legacy in-house systems to maintain competitiveness, reduce cost, differentiate and provide greater flexibility in a constantly evolving (swiftly digitalising) marketplace. CREALOGIX has a 'customer-centric' focus to optimise the user experience across the areas of mobility, security, personalised advice and education. CREALOGIX sees itself as a pioneer in digital banking, having launched the first internet banking solution in Switzerland with Credit Suisse in 1997. It has offices in Germany, Austria, Spain, the UK and Singapore, with plans to extend operations further in Asia and North America. 57% of FY18 sales were outside Switzerland and its medium-term target is to raise international revenues to 70%.

Further awards highlight the value of CREALOGIX's technology

CREALOGIX's technology has been consistently winning awards. Recent awards include Best of Show at FinovateEurope 2018 for the Gravity solution (which follows the same prize in 2017 for The ARC's Virtual Reality Banking App) and Best Web Front End Solution at the Systems in the City Awards 2018 in London (which follows Best Online Development in 2017). In 2017 CREALOGIX won 'Best Digital Financial Advisory Firm' West Europe at the Wealth&Finance 2017 FinTech Awards. We also note that CREALOGIX was listed in IDC Financial Insights' Fintech100 Rankings at number 78, up from 84 in 2017 and 94 in 2016.

Exhibit 2: Share price history over five years



Source: Bloomberg, CREALOGIX

Recent trading

FY18 results: 13.1% local currency revenue growth, margin dip

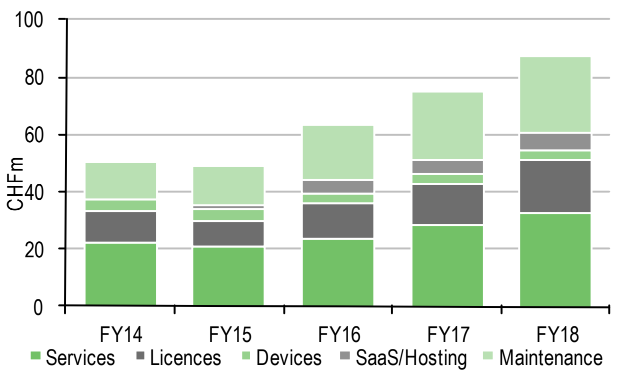
Revenues grew by 16.4%, or 13.1% at constant currencies, to CHF87.1m (prior to the July trading update, we had forecast CHF88.1m). This compared with management guidance of 10–15% growth. All new licence wins in Germany were in SaaS form; had these been traditional licences, revenues would have been CHF3.8m higher. A SaaS rental revenue model means much lower upfront payments, but the model is more lucrative over the long term with break-even after four years. However, we had already been expecting strong SaaS growth, and we understand the level of new licence wins was below our expectations.

EBITDA eased by 3.8% to CHF7.0m (we had forecast CHF11.8m). The 8.1% EBITDA margin was below the >10% management target. Management put this down to a greater than anticipated switch to the SaaS rental model, which provides stronger visibility to future revenues.

Innofis, which contributed for an initial six months, performed below expectations. This was primarily due to management focus on acquisition procedures and integration.

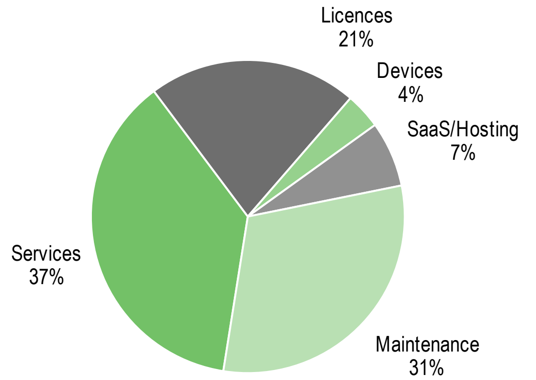
Net profit was CHF0.7m (FY17: CHF1.4m). Internationalisation has continued as the share of sales generated outside Switzerland increased to 57% (FY17: 50%).

Exhibit 3: Revenue by category



Source: CREALOGIX

Exhibit 4: FY17 revenue by category



Source: CREALOGIX

Outlook: Ambitious mid-term targets are sustained

Management remains buoyant on the outlook. It expects revenue to exceed CHF100m in FY19, including an initial contribution from Elaxy BS&S and the first-full year contribution from Innofis. This is in spite of continued high investment in the product offering, market expansion and the ongoing shift from the traditional licence model to rental (SaaS) models. Management has maintained its medium-term EBITDA margin target at 15% (which is c 2% higher than operating margin) and continues to expect international revenues to exceed 70% of group revenue in the medium term.

Exhibit 5: Management guidance

	Targets for FY18/19	Mid-term targets
Revenue growth	>CHF100m	>20%
International revenue share	N/A	>70%
Profitability (EBITDA margin)	improvement	>15%

Source: CREALOGIX

Digital learning contract win with Swissmem

CREALOGIX has expanded its co-operation with Swissmem Vocational Training. Swissmem is the Swiss association of mechanical and electrical engineering industries (MEM industries) and represents the interests of 1,000 member companies. As the leading representative body of the industry, Swissmem provides its members with practical services. It has been using CREALOGIX's digital learning solutions to train its own employees for many years, but will now extend the use of 'time2learn' to technical mechanical and electrical engineering (MEM) occupations.

CREALOGIX's 'time2learn' is a cloud-based learning management system (LMS), primarily focused on the financial services industry, but it is also sold to other industries. It offers all the core features of an enterprise LMS including tracking, reporting and assessments, while customers provide the content. The solution is part of the digital banking hub and all the top Swiss banks are customers – they use it to on-board their trainees (typically 16-20 year olds). Nearly all of CREALOGIX's digital learning customers are in Switzerland. It enables blended learning (ie partly in the classroom and partly offsite computer via the cloud), which significantly improves productivity in training apprentices while also reducing costs (eg teachers).

The digital learning module offers useful benefits in the financial services area, eg it can be used to train advisors as well as clients (eg for compliance purposes). While MEM is not a core target market for CREALOGIX, the solution can be adapted with relative ease for different industry sectors. Consequently, this makes sense in the Swiss market.

Robo advisory contract win with Hauck & Aufhäuser

Hauck & Aufhäuser, the German private bank, has incorporated CREALOGIX technology into its new robo-advisory tool, Zeedin. The tool is available for customers to invest assets of €50k or greater. The digital on-boarding process for Zeedin, from the development of an individual investment strategy to opening accounts, was realized by CREALOGIX, together with a project team from Hauck & Aufhäuser.

Hauck & Aufhäuser is an existing CREALOGIX client as it has the group's private banking portal, and Zeedin is integrated into this. CREALOGIX's robo-advisory algorithms are a useful up sell to existing clients, and CREALOGIX has made several sales beforehand. The algorithms are designed for a relatively small universe (eg 50-200 funds).

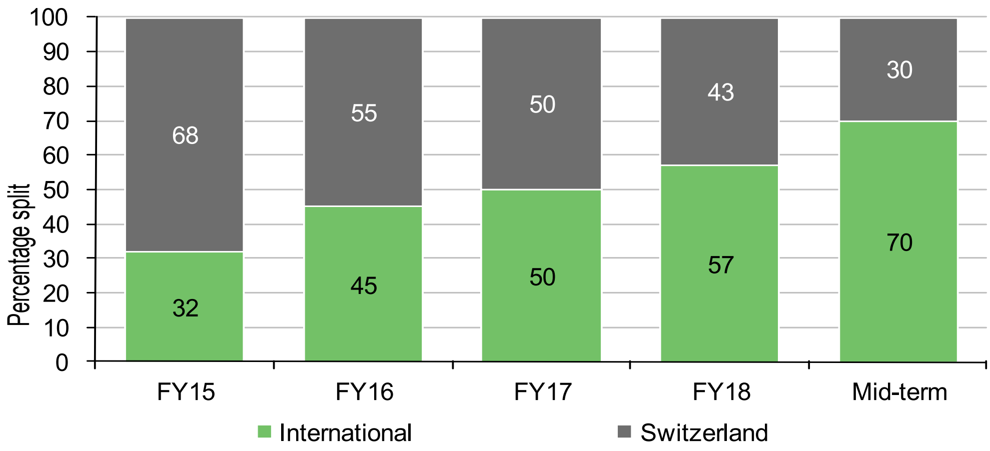
Strategy: Dynamic customer focus; internationalisation

CREALOGIX has established a strong track record of delivering software solutions to the banking industry in Switzerland through its established operations, and it is transitioning and expanding the business to international markets. The group has been investing in the development of its software platform to address the challenges to the banking sector, spending 21% of sales on R&D in FY17 and FY18, all of which was expensed. The organic investment was supplemented by the strategic acquisition of Elaxy in FY16 and Innofis in 2018. Elaxy significantly boosted the group's position in the important German market and added additional functionality, notably on the wealth management side with the 'Digital Financial Advisory' solution. Innofis has enhanced the group's product portfolio and expertise in the field of Islamic banking and established the group in the Middle East. It also paves the way to new opportunities in the Asian region, eg Malaysia. The aim now is to seek the benefits from scaling the platform across a much larger international customer base, and to be at the forefront in matching its software solutions to banking customers facing the challenges of meeting the needs of the dynamic and fast-changing digitalisation markets. Broadening international organic growth in FY18 was evidenced by a new digital banking project for a large Swiss private bank in Singapore, and with a major Canadian bank, which is using CREALOGIX solutions to digitise its asset management process. The business with the Canadian bank was won and implemented through CGI, its Canadian systems integrator partner.

Internationalisation: Medium-term target is for international to be >70% of revenues

57% of CREALOGIX sales in FY18 (50% in FY17 and 45% in FY16) were outside Switzerland (see Exhibit 6) and the group has a medium-term target to expand this to 70%. Currently, its clients are served mainly from offices in its core hub, Switzerland, as well as from Germany, Spain, Austria and the UK. The next strategic aim is to expand the service provision to Asia and North America.

Exhibit 6: CREALOGIX is focused on growing its international revenues



Source: CREALOGIX

Acquisitions add breadth

Selective acquisitions play a role in the group's strategy, and CREALOGIX has made several acquisitions to gain access to new geographic markets and technologies. We expect the company to make further bolt-on acquisitions.

Exhibit 7: Recent acquisitions

Target	Acq'n date	Description	Location	Owner-ship	Consideration				Trailing rev	EV/ Sales (x)	Trailing EBITDA	EV/ EBITDA (x)
					Cash	Shares	Deferred	Total				
MBA Systems	Nov-13	Wealth management	London, Winchester	100%	£5.1m	£3.9m	0.0	£9.0m	£8.5m	1.1	£0.9m	10.3
Elaxy FS&S	Jan-16	Digital banking advisory software solutions	Coburg, Germany	80%	Undisc'd	N/A	N/A	N/A	c CHF10m	N/A	N/A	N/A
Elaxy BS&S	Jan-16	Hosting & software solutions for brokerage and asset management	Coburg, Germany	20%	Undisc'd	N/A	N/A	N/A	c CHF10m	N/A	N/A	N/A
Koemei	Sep-17	Machine learning tech to enable the automated conversion of audio and video content into text	Switzerland	100%	Very small	N/A	N/A	N/A	Undisc'd	N/A	N/A	N/A
Innofis	Jan-18	Digital banking focused on the Middle East	Barcelona Spain	100%	€9.5m	€24.1m	0.0	€33.6m	€9.8m	3.4	€3.8m	10.3
Elaxy BS&S	Jul-18	Hosting & software solutions for brokerage and asset management industries	Coburg, Germany	100%	Undisc'd	N/A	N/A	N/A	c CHF10m	N/A	N/A	N/A

Source: CREALOGIX

Acquisition of Elaxy BS&S

CREALOGIX has exercised a call option to acquire the remaining 80% of Elaxy BS&S at an undisclosed price, effective from 1 Jul 2018. Elaxy BS&S has hosting assets (c 50% revenues) as well as software solutions for brokerage and asset management industries. The acquisition adds well-known names such as Sparkassen Broker and DAB BNP Paribas to the customer base. Elaxy BS&S operates its own data centre in Coburg, Germany, which is particularly helpful for German customers, who typically do not want their data to be outside Germany. In addition, it boosts the group's know-how in areas including regulation and data security. Elaxy BS&S generates more than CHF10m in revenues, around half of which are recurring, and employs around 100 people. In the year to June 2017, CREALOGIX's 20% stake contributed net profit of CHF407k, indicating that the entire business generated net income of CHF2,035k (or €1,884k). This was up from CHF269m in FY16 (CHF1,345k for a 100% interest). The deal is earnings-enhancing since the acquired business is profitable and it is being financed by zero-yielding cash.

CREALOGIX initially acquired a 20% stake in Elaxy BS&S in January 2016 as part of a broader co-operation agreement with the vendor, Fiducia & GAD, a provider of core banking solutions. As part of the deal, CREALOGIX also acquired 80% of Elaxy Financial Software & Solutions (Elaxy FS&S), and CREALOGIX retains a call option to acquire the remaining 20%. The transaction enabled CREALOGIX to accelerate its plan of penetrating the German market. Following the acquisition of the remaining 80% of Elaxy BS&S, the two Elaxy businesses are being rebranded as CREALOGIX.

Acquisition of Innofis

In January, CREALOGIX announced the acquisition of Innofis, a Barcelona-based digital banking competitor to expand its core digital banking business into the lucrative Middle Eastern markets. As well as expanding the group's geographical coverage, the acquisition has broadened its product offering and created an opportunity to grow the employee base in a significantly lower-cost market. We expect the group's Spanish employee base to grow faster than elsewhere, as the group can take advantage of near-shoring some functions to Barcelona.

The acquisition fits with the group's strategy to target new markets, and acquire customers and add product offerings. Due to the size of the acquisition, a prospectus was published. The purchase was settled in the issue of 170k CREALOGIX shares and CHF12m in cash. Transaction costs were estimated at CHF0.5m, and Innofis had CHF1.4m net cash as at 31 December 2017. At the CHF166 share price and CHF1.17/€ exchange rate, this represents a transaction value of c €33.6m. David Moreno, the CEO and founder of Innofis, sold his entire 98% shareholding and holds c 11.8% of the enlarged share capital. Mr Moreno is staying with the company and is heading its Middle Eastern operations. We understand that the reason he chose to sell was because Innofis was looking for a strong partner to expand its markets

Founded in 2012, Innofis has 120 staff, all of whom are based in Barcelona, Spain. Importantly, Innofis has tier one Middle Eastern bank customers, including National Commercial Bank (NCB) and the Al Rajhi Banking Corporation. This reflects the company's strategy of focusing on the Middle Eastern markets, which require English-speaking skills. Innofis also has smaller customers, including non-banking Spanish domestic customers, but c 90% of revenues relate to digital banking.

Innofis operates a similar business model to CREALOGIX, with on-premise licence and maintenance along with hosted offerings. There is a strong preference for the traditional on-premise software licensing model in the Middle Eastern market. It has been growing consistently in double digits, and in the year to December 2017 generated revenues CHF9.77m and operating profit of CHF3.68m (37.7% operating margin), which partly reflects its relatively low cost base in Spain.

Innofis added some interesting products to the CREALOGIX portfolio, including predictive analytics (for marketing), a SaaS-based digital loyalty programme (which facilitates a points-based reward system for retail customers) and a suite of specific modules for Islamic banking. Additionally, Innofis has greater experience with microservices, which will be advantageous for product development. Over time, the enlarged group will transition its customers to CREALOGIX's Digital Banking Hub and new customers will be encouraged to take the CREALOGIX platform.

CREALOGIX aims to cross-sell its modules to Innofis customers, including its Wealth Management and Financial Advisory modules.

Previously without a Spanish office, CREALOGIX plans to take advantage of its new office infrastructure in Barcelona to prioritise staff growth in a market where staff are 50-75% cheaper than in the group's core markets of Switzerland and Germany.

CREALOGIX wants to benefit from what it sees as a strategic shift away from oil in the Middle East towards a more diversified working environment, which will include the need for more digital banking.

Market environment

CREALOGIX is in the top 100 global fintech list and a leader in the digital banking space, in particular for mobile banking software solutions. We discuss the dynamics of the industry background in the following sections, which focus on the strong growth underway in digital banking as CREALOGIX's customer base, banks and financial institutions, strive to meet, on one side, their own customer-driven demand for digital delivery of services and, on the other, regulatory changes triggered with the recently implemented MiFID II and the Second Payment Services Directive (PSD2). Amid this, the traditional banking sector is consolidating.

Digital banking is in a major growth phase globally

Digital banking remains in a major growth phase globally, boosted by the advent of smartphones and tablets; smartphones are expected to take 80% of the online banking market by 2020 (source: AT Kearney). Further, digital banking has overtaken compliance as the area of highest importance in banking sector IT budgets. Regulatory changes such as PSD2 put additional pressure on banks to upgrade their front-end systems. The transformation process to digital banking remains in its early stages, and, according to one industry commentator is on 1% complete.

In a white paper published by CREALOGIX, the company cites a Visa Digital Payment study, which shows that the number of Europeans who regularly use a mobile device (eg a smartphone, tablet or wearable device) to make payments has tripled within a single year to 54% of respondents compared with 18% in 2016.

The changing backdrop is driving increasing spend by banks and financial providers on front-end systems and Gartner forecasts that front-end system spend will rise to c 50% of banks' total IT spend by 2020, from c 10% in 2010. The front-end solutions in this space need to be more agile than the back-end core banking systems and must offer a seamless experience. Innovation is clearly much more prevalent in the front end than at the back end.

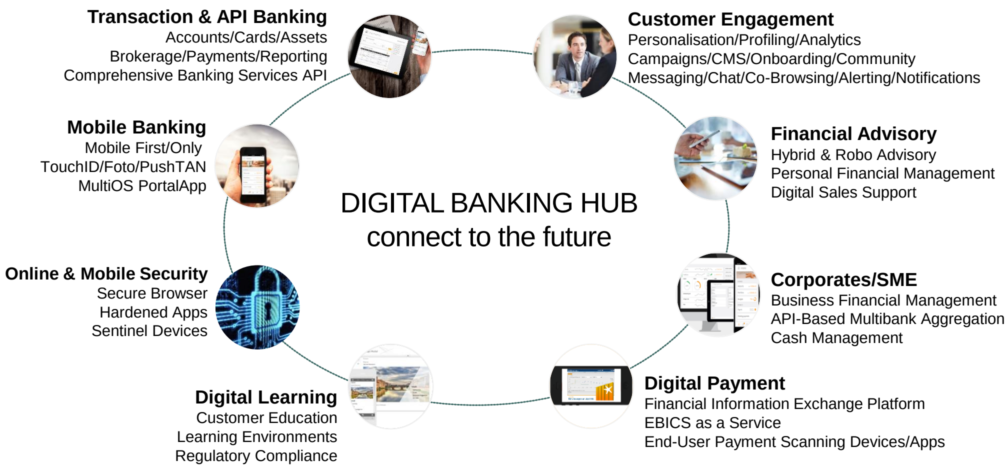
The global banking sector remains in a state of flux

The global banking sector is facing unprecedented challenges. Increased regulation in the wake of the global financial crisis means banks must hold significantly higher levels of capital against their assets, which puts huge pressure on profitability. The implementation of MiFID II and PSD2 in January 2018 has added further complexity. Under PSD2, EU banks are required to provide legitimate third parties with access to their customers' account data, enabling them to aggregate data and initiate payments. This means that credit institutions in the form of banks will need to have the requisite IT interfaces in the form of APIs (as provided by CREALOGIX software solutions). At the same time, their customer bases are being targeted by challenger banks entering the space, as well as a plethora of new fintechs offering alternative products (such as peer-to-peer lending, crowd funding, bitcoin and various investing solutions). To maintain competitiveness, traditional banks must be able to offer modern solutions. While the large global banks have the financial resources to develop their own solutions in house, the rest have no choice but to purchase technology if they wish to stay in the game. We also note that the number of banks has been in long-term structural decline across the globe, eg in Switzerland the number of banks has fallen by 16% from 2004 to 283 in 2013. Traditional banks also have costly branch networks that can be streamlined with the help of digital banking. A 2017 report from Autonomous pointed out that Germany has over 32,000 bank branches compared with 7,370 supermarkets, and this number is expected to fall dramatically in the coming years.

CREALOGIX's response: The Digital Banking Hub

Following a period of significant investment, the group launched its Digital Banking Hub in 2015. It gives small and mid-sized banks the opportunity to offer highly competitive digital banking offerings. The hub is a modular system that has been tailored for customers, having been developed in conjunction with them. It is a comprehensive platform for online banking across all channels (essentially PC, tablet and mobile phone). It covers eight fields of expertise, as shown in Exhibit 8. Each field covers a range of products, which are broken down into separate modules. It has a modern interface and APIs, and includes pre-built, out-of-the box modules. The APIs enable it to integrate fintechs, third-party modules and in-house built widgets.

Exhibit 8: The new software platform – functionalities for the Digital Banking Hub



Source: CREALOGIX

The hub enables financial institutions to integrate specific product offerings from fintechs into their complex IT landscape and connect them with existing solutions. Consequently, financial institutions can achieve significant improvements in the banking experience for their customers. An example for this is Gravity, which won the Best of Show at FinovateEurope 2018. Gravity reveals the flexibility that can be provided to banks through the use of APIs. Meanwhile, 'The Arcs' modern virtual reality application combines emotion, creativity and logic in a playful manner, and allows customers to experience their daily banking visually in a new way – in 3D. This application has the potential to become reality if 3D devices become mainstream.

The platform's primary areas are Transaction & API Banking, Mobile Banking, Digital Payment and Digital Learning. Customers will take both the flagship online Transaction & API Banking and Mobile Banking solutions to create a multi-channel offering. Additionally, CREALOGIX offers a range of online and mobile security products, and has a strategic alliance with Entersekt, a provider of advanced transaction authentication and mobile app security software.

The Digital Banking Hub is open and can be integrated into all systems; a user-friendly navigation concept can link from various CREALOGIX modules to third-party applications. The product is white-labelled, with each client bank adapting the style to suit its existing design. It is cost effective, because the system is based on a lean and open architecture and is perfectly compatible with all standard devices. The group uses Java and HTML5 programme languages, with Java in the back end and HTML5 upfront. The product uses modern concepts including responsive design (resizes with different devices) and zero footprint (no software installation required on the device). The product offering has a six-month upgrade cycle.

Digital Banking is the group's broadest offering and, along with related modules, generated the majority of group revenues in FY18, while Digital Payment and Digital Learning each generated in the order of c 10%. The Digital Learning module is an LMS, used by the group's banking customers to train their clients and employees (typically young professionals) in financial literacy. It replaces paper-based systems, so helps reduce risk.

Additionally, CREALOGIX has the NovaCore platform, which is designed for the corporate end-market, to enable customers to aggregate accounts across multiple banks.

The implementation of the group's solutions helps IT departments shift their focus from development to supporting the business and this is an attractive proposition for the business end of a bank. This is because banks need greater flexibility to cope with regulatory changes and position themselves strategically to deal with fintechs. They also need the latest technology to help them in the fight to win new customers.

Financials

Business model: Perpetual licence, term licence & hosted SaaS

The company offers a range of revenue models to its customers. The group's traditional Swiss client base is all on the perpetual licence model plus implementation along with annual support and maintenance fees (in the range of 18% to 21% depending on the overall solution). We note that many banks in continental Europe prefer an onsite solution, due to attitudes towards security risks. The group's UK clients (c 30 customers acquired via MBA) operate on a hosted SaaS basis, committed for five years. We note that MBA has been incorporated into the Digital Banking Hub, and the entire platform is now available on a hosted basis. CREALOGIX also offers a SaaS licence for five to seven years, while one company has opted for an onsite rental. CREALOGIX regularly receives change requests from clients (eg adding functionality, acquire an entire hub or a more general adaptation), which generates additional licence and services revenues.

Additionally, CREALOGIX is using the systems integration reseller route to market, which enables it to cover the entire value chain, through consultancy and conception to suitable solutions as well as integration and operation. CREALOGIX's systems integrator partners include Hewlett-Packard Enterprise (NYSE:HPE), CGI (TSE:GIB.A), Cognizant (NASDAQ:CTSH) and Adesso (ETR:ADN1) and the systems integrators take the services work.

The company sells to both the business side and the IT department. However, the position of chief digital officer is becoming much more common in banks and is typically the most effective person to sell to. The sales cycle is usually in the range of six to 18 months and averages 12 months. There will typically be a proof of concept, but the scale of this will depend on the customer's requirements. For example, the customer might simply be concerned with the look or feel for the end-customer. Alternatively, they may wish to integrate third-party software or in-house widgets, or customise it so it looks and functions like the customer's other corporate websites. Ultimately, the customer needs to make the decision on whether to invest in-house or in new front-end software.

Recurring revenues consist of support and maintenance (CHF23.8m or 63% of licence revenues in FY18), along with hosting SaaS services (CHF4.7m in FY17). In total, this was 38% of FY17 revenues, but we expect it to continue to rise on the back of hosted/SaaS growth.

Goods represents hardware used for secure online invoice payments. This consists of a payment scanning device and a payment slip reader. We assume this area declines as the company focuses on software.

Balance sheet and capital structure; cash flow generative

The group's net asset position rose strongly over the year for three main reasons: the share issue to acquire Innofis, the significant conversion of convertible bonds and continued profitability. Net assets grew by CHF41.5m to CHF71.1m, and the group remains in an adjusted net cash position.

The acquisition of Elaxy BS&S was made immediately after the period end. We expect cash flow to continue to remain strong on the back of revenue growth and see R&D growing at a slower pace than sales.

The company issued CHF25m nominal of 2.375% four-year convertible bonds in November 2015. These bonds have a conversion price of CHF104.5 and, given the strength of CREALOGIX's share price, CHF14mm nominal of bonds were converted during FY18. This leaves CHF9.3m nominal outstanding. Assuming all the outstanding bonds convert, it would require the issue of c 91k new shares, representing 6% of the expanded share capital. Based on pro forma numbers, that would push the group to c CHF20.7m net cash, while boosting net assets to c CHF80.3m.

Exhibit 9: Capital structure

CHF000s	30/06/15	30/06/16	30/06/17	30/06/18	30/06/18 Acquisition	30/06/18 Bond convert
Cash & ST securities	(10,815)	(27,495)	(33,775)	(20,692)	(20,692)	(20,692)
Short-term borrowings	0	0	0	0	0	0
Long-term borrowings	0	0	0	0	0	0
Convertible bonds	0	24,141	23,154	9,291	9,291	0
Net cash	(10,815)	(3,354)	(10,621)	(11,401)	(11,401)	(20,692)
Short-term securities	(2,322)	0	0	0	0	0
MBA deferred payment	2,630	2,370	0	0	0	0
Assumed ELAXY FS&S deferred payment	0	2,387	2,387	2,387	2,387	2,387
ELAXY BS&S (estimated cost)					8,500	8,500
Adjusted net debt (cash)	(10,507)	1,403	(8,234)	(9,014)	(514)	(9,805)
Net assets	26,682	25,102	29,515	71,053	71,053	80,344
Debt/equity	**(39.4%)**	**5.6%**	**(27.9%)**	**(12.7%)**	**(0.7%)**	**(12.2%)**

Source: CREALOGIX accounts, Edison Investment Research assumptions

There are call and put options over the remaining 20% of Elaxy FS&S, which we assume will be exercised for CHF2.4m.

As at 30 June, the company had 1,387,770shares in issue. This includes 15,090 treasury shares and 1,372,680 shares with voting rights.

Forecasts: Revenues and profits maintained

We have broadly maintained .our forecasts. We have switched Innofis into the specific revenue categories – licensing, maintenance and services. We expect the growth to be led by the licensing and hosting/SaaS revenue segments, with services edging higher and hardware sales flatlining. For FY19, we forecast licensing fees to jump 25% to CHF23.6m, hosting/SaaS to rise by 19% to CHF7.0m, while services rise by 11% to CHF36m. We forecast product revenues (licence, maintenance and hosting/SaaS) to rise to 61% of group revenue in FY19 (59% in FY18), prior to the inclusion of Elaxy BS&S.

We forecast operating costs (before depreciation) to rise 23% to CHF74.1m in FY19 and by 7% to CHF79.5m in FY20. We note that CREALOGIX expenses all its R&D costs. We are forecasting operating margins to rise to 10.1% in FY19, to 12.1% in FY20 and to 13.8% in FY21 as the group scales up its international revenues.

Following the acquisition of the outstanding 80% of Elaxy BS&S, associates are now represented by just Qontis, which generated a trading loss of CHF144k in FY18 and is very difficult to forecast. We are assuming break-even going forward.

Net interest expense includes the coupon on the CHF9.3m convertible bonds outstanding, which amounts to c CHF221k per year.

The minority interest represents the 20% outstanding in Elaxy FS&S, which we expect will be acquired by CREALOGIX during FY19.

We have maintained our tax rate assumptions of 28% going forward. We note the group has c CHF3m in tax losses, most of which are in Germany.

We forecast FY19 operating cash flow before interest and tax of CHF11.7m, of which we expect interest, tax, capex, and dividends to absorb CHF0.7m, CHF1.6m, CHF1.7m and CHF0.3m, respectively. Thereafter, absent any significant acquisitions, we expect CREALOGIX to show strongly increasing cash generation, including our forecast CHF18.8m from operations in FY20. We expect capex to run at around 1.7% of sales from FY20 and apply working capital reductions of 0.5% per year, representing the cash generating upfront licence and hosted SaaS revenues.

Exhibit 10: Forecast changes

Year end 30 June	2018			2019e			2020e			2021e
CHF000s	Old	New	Change (%)	Old	New	Change (%)	Old	New	Change (%)	New
Revenues										
Licensing fees	17,920	18,794	5	20,382	23,570	16	22,910	26,230	14	28,916
Maintenance	25,200	26,738	6	26,670	30,450	14	28,350	32,550	15	34,860
Hosting and SaaS services	5,940	5,895	(1)	7,020	7,020	0	8,640	8,640	0	9,990
Services	28,807	32,489	13	30,283	36,006	19	33,861	40,300	19	44,109
Goods	3,465	3,228	(7)	3,119	3,119	0	2,807	2,807	0	2,807
Innofis	5,768	0	N/A	12,691	0	N/A	13,960	0	N/A	0
Elaxy BS&S				10,000	10,000		10,500	10,500		10,973
Total group revenues	87,100	87,144	0	110,164	110,164	0	121,027	121,027	0	131,654
Growth (%)	16.4	16.4	0	26.5	26.4	(0)	9.9	9.9	(0)	8.8
Gross profit	67,273	67,277	0	86,619	85,232	(2)	95,708	94,195	(2)	103,145
Gross margin (%)	77.2	77.2	(0)	78.6	77.4	(2)	79.1	77.8	(2)	78.3
Opex before depn & amortis'n	(60,273)	(60,247)	(0)	(75,507)	(74,121)	(2)	(81,011)	(79,499)	(2)	(84,983)
EBITDA	7,000	7,030	0	11,111	11,111	(0)	14,696	14,696	(0)	18,162
EBITDA margin (%)	8.0	8.1	0	10.1	10.1	(0)	12.1	12.1	(0)	13.8
Normal depreciation	(1,375)	(1,589)	16	(2,400)	(2,400)	0	(2,350)	(2,350)	0	(2,300)
Adjusted operating profit	5,625	5,441	(3)	8,711	8,711	(0)	12,346	12,346	(0)	15,862
Operating margin (%)	6.5	6.2		7.9	7.9		10.2	10.2		12.0
Growth (%)	(4.9)	(8.0)		54.9	60.1		41.7	41.7		28.5
Associates	250	(20)	(108)	0	0	N/A	0	0	N/A	0
Net interest	(750)	(429)	(43)	(650)	(650)	0	(100)	(100)	0	100
Profit before tax norm	5,125	4,992	(3)	8,061	8,061	(0)	12,246	12,246	(0)	15,962
Amortisation of acq'd intangibles	(3,100)	(2,944)	(5)	(5,300)	(5,300)	0	(5,300)	(5,300)	0	(5,300)
Exceptional items (net of tax)	(500)	0	(100)	0	0	N/A	0	0	N/A	0
Profit before tax	1,525	2,048	34	2,761	2,761	(0)	6,946	6,946	(0)	10,662
Taxation	(1,365)	(1,350)	(1)	(2,257)	(2,257)	(0)	(3,429)	(3,429)	(0)	(4,469)
Minority interest	(212)	(681)	221	(123)	(123)	0	(67)	(67)	0	(75)
Net income	(52)	17	(133)	381	381	(0)	3,451	3,450	(0)	6,118
Statutory EPS (CHF)	(0.04)	0.01	(133)	0.27	0.27	(0)	2.41	2.41	(0)	4.14
Adjusted EPS (CHF)	2.88	2.39	(17)	4.09	4.09	(0)	6.10	6.10	(0)	7.72
P/E - Adjusted EPS		**54.0**			**31.5**			**21.1**		**16.7**

Source: CREALOGIX (historics), Edison Investment Research (forecasts).

Sensitivities: Fintech is a swiftly evolving space

We highlight the following sensitivities:

- Economic slowdown: economic and regulatory uncertainties, including Brexit, could defer investment decisions by CREALOGIX'S customers and slow the pace of change in CREALOGIX's traditional banking sector customer base.
- Competitive environment: there is a risk that nimble fintechs and challenger banks could make a bigger inroad into the traditional banking sector over the longer term. Consolidation in the traditional banking sector could reduce the potential customer base. Major back-end software vendors and ERP providers could take a more active approach in the front end, while specialist direct competitors could develop superior solutions or more attractive business models.

- Customer/currency concentration: the group has a high exposure to Switzerland-based banks and Swiss currency. However, this is gradually being diversified as the group broadens its customer base internationally. CREALOGIX is not overly exposed to any particular company.
- Acquisition risk: there is implementation/integration risk in the acquisition strategy and increasing currency risk as the company expands abroad.
- Low free float: this means there is liquidity risk for investors.

Valuation: Unique play in digital banking tech

The group's strategy has been beginning to bear fruit, aided by the buoyant digital banking backdrop. We believe there are several reasons why revenues and margins can continue to rise:

- Regulatory requirements such as MiFID II and PSD2 are driving increasing spend on front-end systems and CREALOGIX is ideally positioned to benefit from this.
- The group has a much stronger focus on the financial services sector than was the case historically.
- The group has a broader solution suite (eg Digital Financial Advisory solution) and increased opportunities for cross-selling.
- The benefits from economies of scale created by acquisitions.
- The solution suite consists of more off-the-shelf solutions, which are higher margin, and high-margin product is expected to represent a higher percentage of revenues.
- It is making greater use of cost-effective near/far-shore sites for R&D and delivery.

We highlight the following points on the group's valuation:

- **DCF analysis:** we forecast a CHF7.7m free cash outflow in FY19, rising to CHF11.0m in FY20 and to CHF13.4m FY21. A DCF scenario incorporating 10% organic revenue CAGR over 2019–29e falling thereafter to 2%, operating margins tapering up to a level of 15% from FY22e, along with a 9% WACC, would suggest a valuation of CHF217, 68% above the current share price. Increasing the margin target to 20% lifts the valuation to CHF284, while reducing the margin to 10% cuts it to CHF150. These valuations are after the dilution impact from the outstanding convertible bonds.

- **Traditional P/E valuation/peer comparison:** the stock trades on 31.5x our earnings forecasts in FY19e, falling to 21.1x in FY20 and to 16.7x in FY21. Following the rebound in earnings and given the healthy outlook, the stock now looks much more attractively priced relative to its peers, although we recognise that there are wide variations in business models across this selection. Nonetheless, the modest EV/sales ratios indicate significant upside potential if CREALOGIX can maintain the margin progression.

Exhibit 11: Peer analysis

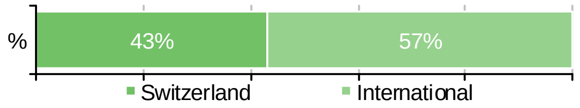
	Share price	Market cap	Market cap	EV/Sales (x)		EBITDA margins		EV/EBITDA (x)		P/E (x)	
	Local curr	Local curr (m)	CHFm	Year 1	Year 2	Year 1	Year 2	Local curr	Local curr (m)	CHFm	Year 1
CREALOGIX	**129.00**	**179**	**179**	**1.5**	**1.4**	**10.1%**	**12.1%**	**14.8**	**11.2**	**31.5**	**21.1**
A) Large, diverse, banking software suppliers											
Infosys	9.09	38,942	38709	3.0	2.7	26.3%	26.4%	11.3	10.1	17.4	15.6
FIS	102.45	33,551	33350	4.9	4.8	37.4%	38.6%	13.1	12.4	19.6	17.7
Jack Henry	134.81	10,421	10358	6.5	6.1	34.3%	34.8%	18.9	17.4	35.9	32.1
Temenos	119.30	8,487	8487	10.6	9.4	38.5%	39.7%	27.5	23.7	40.2	34.2
Bottomline Tech	50.66	2,183	2170	5.2	4.7	24.0%	25.2%	21.5	18.6	35.0	29.9
Sopra Steria	82.95	1,716	1946	0.6	0.6	8.4%	9.2%	7.0	6.1	9.2	7.6
Iress	11.03	1,910	1378	4.5	4.2	27.5%	28.4%	16.4	14.9	25.0	23.0
Polaris Consulting	90.87	5,614	78	1.2	1.1	13.1%	12.9%	9.1	8.4	13.9	13.0
Medians				**4.7**	**4.5**	**26.9%**	**27.4%**	**14.7**	**13.6**	**22.3**	**20.4**
B) European banking-related fintech peers											
Temenos	119.30	8,487	8487	10.6	9.4	38.5%	39.7%	27.5	23.7	40.2	34.2
Sopra Steria	82.95	1,716	1946	0.6	0.6	8.4%	9.2%	7.0	6.1	9.2	7.6
First Derivatives	2350.00	614	781	3.0	2.6	17.9%	18.0%	16.6	14.7	29.4	26.3
FinTech Group	19.02	359	407	4.3	3.8	36.1%	38.6%	12.0	9.7	13.0	10.9
GFT	7.85	208	236	0.7	0.7	9.2%	10.2%	7.6	6.6	10.9	9.1
RS2	1.17	202	229	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Gresham Technologies	151.50	104	132	3.9	3.5	22.8%	25.7%	17.2	13.5	23.9	20.2
Medians				**3.4**	**3.1**	**20.3%**	**21.9%**	**14.3**	**11.6**	**18.4**	**15.5**
C) Quoted Swiss IT companies											
Temenos	119.30	8,487	8487	10.6	9.4	38.5%	39.7%	27.5	23.7	40.2	34.2
Kudelski	6.91	345	345	0.7	0.7	5.4%	9.1%	13.5	8.1	17.5	11.6
Medians				**5.7**	**5.1**	**21.9%**	**24.4%**	**20.5**	**15.9**	**28.8**	**22.9**

Source: Thomson Reuters consensus data. Note: Prices at 21 November 2018

Exhibit 12: Financial summary

	CHF'000s	2016	2017	2018	2019e	2020e	2021e
Year end 30 June		Swiss GAAP	Swiss GAAP	Swiss GAAP	Swiss GAAP	Swiss GAAP	Swiss GAAP
PROFIT & LOSS							
Revenue		63,317	74,858	87,144	110,164	121,027	131,654
Gross Profit		51,693	59,695	67,277	85,232	94,195	103,145
EBITDA		3,696	7,304	7,030	11,111	14,696	18,162
Adjusted Operating Profit		2,264	5,916	5,441	8,711	12,346	15,862
Amortisation of acquired intangibles		(2,634)	(1,799)	(2,944)	(5,300)	(5,300)	(5,300)
Exceptionals		0	0	0	0	0	0
Operating Profit		(370)	4,117	2,497	3,411	7,046	10,562
Associates		517	(21)	(20)	0	0	0
Net Interest		(630)	(936)	(429)	(650)	(100)	100
Profit Before Tax (norm)		2,151	4,959	4,992	8,061	12,246	15,962
Profit Before Tax (Statutory)		(483)	3,160	2,048	2,761	6,946	10,662
Tax		(130)	(1,751)	(1,350)	(2,257)	(3,429)	(4,469)
Profit After Tax (norm)		2,021	3,208	3,642	5,804	8,817	11,493
Profit After Tax (Statutory)		(613)	1,409	698	504	3,517	6,193
Minority interest		(270)	(360)	(681)	(123)	(67)	(75)
Net income (norm)		1,751	2,758	2,944	5,681	8,750	11,418
Net income (Statutory)		(883)	1,049	17	381	3,450	6,118
Average Number of Shares Outstanding (m)		1.06	1.06	1.23	1.39	1.43	1.48
EPS - normalised (CHF)		1.65	2.59	2.39	4.09	6.10	7.72
EPS - Statutory (CHF)		(0.83)	0.99	0.01	0.27	2.41	4.14
Dividend per share (CHF)		0.00	0.50	0.25	0.75	1.25	1.75
Gross Margin (%)		81.6	79.7	77.2	77.4	77.8	78.3
EBITDA Margin (%)		5.8	9.8	8.1	10.1	12.1	13.8
Op Margin (before GW and except.) (%)		3.6	7.9	6.2	7.9	10.2	12.0
BALANCE SHEET							
Fixed Assets		28,910	26,430	62,506	64,958	59,366	54,004
Intangible assets and deferred tax		21,004	18,119	54,330	57,530	52,230	46,930
Tangible Assets		1,595	1,385	1,363	615	323	261
Investments & pensions		6,311	6,926	6,813	6,813	6,813	6,813
Current Assets		48,275	52,495	49,576	56,152	68,971	81,689
Stocks		3,661	3,419	5,950	7,522	8,263	8,989
Debtors		17,119	15,301	22,934	28,992	31,851	34,648
Cash		27,495	33,775	20,692	19,638	28,856	38,053
Current Liabilities		(24,752)	(24,219)	(29,704)	(47,656)	(42,784)	(47,181)
Creditors		(24,752)	(24,219)	(29,704)	(38,356)	(42,784)	(47,181)
Short term borrowings		0	0	0	(9,300)	0	0
Long Term Liabilities		(27,331)	(25,191)	(11,325)	(2,034)	(2,034)	(2,034)
Long term borrowings		(24,141)	(23,154)	(9,291)	0	0	0
Other long term liabilities		(3,190)	(2,037)	(2,034)	(2,034)	(2,034)	(2,034)
Net Assets		25,102	29,515	71,053	71,421	83,519	86,478
CASH FLOW							
Operating Cash Flow		1,281	9,735	3,388	11,662	15,301	18,820
Net Interest		5	(616)	(455)	(650)	(100)	100
Tax		(144)	(1,273)	(421)	(1,614)	(2,176)	(3,306)
Capex		(486)	(862)	(1,117)	(1,652)	(2,057)	(2,238)
Acquisitions/disposals		(9,350)	(346)	(11,814)	(8,500)	(700)	(2,387)
Financing		1,504	(215)	(2,447)	0	0	0
Dividends		0	0	(559)	(308)	(1,041)	(1,792)
Net Cash Flow		(7,190)	6,423	(13,425)	(1,063)	9,227	9,196
Opening net debt/(cash)		(10,815)	(3,354)	(10,621)	(11,401)	(10,338)	(28,856)
Other		(271)	844	14,205	0	9,291	()
Closing net debt/(cash)		(3,354)	(10,621)	(11,401)	(10,338)	(28,856)	(38,053)

Source: CREALOGIX Group (historics), Edison Investment Research (forecasts). Note: The FY19 and FY20 acquisition outflows represents the final payments for Elaxy BS&S and MBA respectively with a final payment for Elaxy FS&S expected in FY21. We have treated the convertible bond conversions in FY18 and FY20 in the Other category.

Contact details	Revenue by geography
Baslerstrasse 60 8048 Zurich Switzerland +41 58 404 8000 www.crealogix.com	

Management team

Chief executive officer: Thomas Avedik	Chief strategy officer: Richard Dratva
Mr Avedik joined the group as CEO of CREALOGIX E-Banking in mid-2007 and took on the role of CEO at the beginning of 2016. He began his professional career with UBS where he managed the digital transformation for 16 years, broadly involving the development and expansion of e-banking. Other projects included the launch of the UBS market data system, the design and implementation of an e-banking security solution as well as the development of the global e-banking strategy for UBS.	Richard Dratva is a founding member of CREALOGIX. Prior to CREALOGIX, he worked as a consultant with Teleinform. From 1992 to 1994, he was engaged as a research associate at the Institute of Information Management at the University of St. Gallen. From 1987 to 1991 Mr Dratva was employed as an internal consultant with the Swiss Bank Corporation (now UBS).
Chief financial officer: Philippe Wirth	**Chairman: Bruno Richle**
Mr Wirth joined CREALOGIX in May 2017 as CFO and is a member of the executive management. He has longstanding experience in finance and accounting as well as business transformation programmes. At Mettler-Toledo, he held several senior management positions in group accounting, and was head of finance and controlling at Mettler-Toledo Group subsidiaries in Switzerland and the US. Most recently, Mr Wirth was the programme director of a global business transformation project that included all processes in sales, service, production, development, finance and IT in Europe, the US and China.	Mr Richle was a founding member of CREALOGIX in 1996 and led the group though its IPO on the Swiss Exchange SWX in 2000. He retired as CEO at the end of 2015. From 1990 to 1996, he was a member of the executive management and technical director with Teleinform, which at that time was the leading Swiss telematics company. From 1985 to 1989 Mr Richle was employed at the Bührle Group, and from 1986 was head of the department of electronic engineering with Oerlikon Aerospace (then part of Bührle Group) in Montreal, Canada. He is also a director of Yachtwerft Portier and Elektrizitätswerk Jona-Rapperswil. He holds a foundation board mandate at Foundation FUTUR and Innovation Foundation of the Bank of Canton Schwyz, and is a member of the Hochschulrat der Hochschule für Technik in Rapperswil (HSR).

Principal shareholders	(%)
Richard Dratva	17.68
Bruno Richle	16.35
David Moreno	11.81
Daniel Hiltebrand	9.89
Noser Management	3.02
Peter Süsstrunk	2.02

Companies named in this report

FinTech Group, First Derivatives, FIS, GFT, Infosys, Iress, Kudelski, Polaris Consulting, Sopra Steria, Temenos

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