

BANGO

SOFTWARE AND COMPUTER SERVICES

BGO.L

92.5p

Market Cap: £65m

SHARE PRICE (p)



12m high/low

197.5p/76p

Source: LSE Data

KEY INFORMATION

Enterprise value	£60.4m
Index/market	AIM
Next news	FY 18 results, 19/03/19
Gearing	N/A
Interest cover	N/A

 BANGO IS A RESEARCH CLIENT OF
 PROGRESSIVE

ANALYSTS

Blaine Tatum
 +44 (0) 20 7781 5309
 btatum@progressive-research.com

Gareth Evans
 +44 (0) 20 7781 5301
 gevens@progressive-research.com

Bango evolved

This note summarises the information delivered at Bango's Jan-19 Strategy Day and analyses the key messages. In particular, we look at the group's updated strategy, with its increasing focus on the data opportunity and the new Bango Marketplace product. The core payments business continues to grow strongly and, in our view, the increased focus on data is both strategically sensible and represents a material growth opportunity. We continue to believe that Bango is well placed to deliver on its targets, and we are making revisions to estimates following the Strategy Day and recent Trading Update.

- Strategy update - data in focus:** In our view, increasing focus on the data business is a strategically sensible move for Bango. With the app advertising market expected to grow to US\$64bn in 2020, we believe there is a material incremental growth opportunity for Bango. Providing additional customer insight to app developers should stimulate additional Direct Carrier Billing ("DCB") payment volumes and generate incremental revenue via the Bango Marketplace.
- Bango Marketplace - the mechanism to reach app developers:** Bango Marketplace leverages Bango's global partnerships and customer reach. In addition to representing a material incremental growth opportunity, we believe it also represents a key source of competitive advantage for Bango as competitors will struggle to generate comparable insight into customer payment behaviour.
- Trading update demonstrates continuing execution:** Bango's recent trading update demonstrated that the business continues to deliver on its core business. With FY 2018 End-User-Spend ("EUS") confirmed at over £550m, management's core KPI continues to double year-on-year, with operating expenses remaining firmly under control.
- Estimate changes:** Following the Strategy Day and recent Trading Update, we make revisions to estimates. FY 2018E EBITDA declines to -£0.8m (previously +£1m), reflecting (longer-term favourably) revised terms on several new contracts. FY 2019E earnings estimates are unchanged.

Bango's 2019 Strategy Day was well attended and provided the opportunity to meet the broader Bango executive team. Additional colour on the strategic opportunities arising from management's focus on the data insights business gives further confidence in the Bango growth story and ongoing growth in the key EUS KPI reassures on management's ability to execute strongly.

FYE DEC (£M)	2015	2016	2017	2018E	2019E
EUS (Non-GAAP)	44.7	132.3	271.4	550.0	1,237.5
Revenue	1.3	2.6	4.2	6.6	11.3
Adj EBITDA	(3.1)	(2.4)	(1.6)	(0.8)	4.3
Fully adj PBT	(5.0)	(4.1)	(3.6)	(2.6)	2.0
Fully adj EPS	(9.5)	(6.3)	(5.5)	(3.7)	2.8
EV/EBITDA	(19.2)	(25.0)	(38.6)	(72.0)	14.2
PER	N/A	N/A	N/A	N/A	32.9

Source: Company Information and Progressive Equity Research estimates

Strategy Update: Bango Evolved

Bango's Strategy Day provided further colour on the group's strategic evolution from mobile payments to a mobile commerce platform, powered by an increasing focus on data. Although a subtle shift in emphasis, the Bango data business augments the existing payments platform and is, in our view, a strategically sensible move. With the global app advertising market estimated to reach US\$64bn by 2020¹, the data business should present Bango with material incremental growth opportunities.

From mobile payments...

Bango's strategy has been to deploy and operate a global, alternative payment platform connecting mobile telephone subscribers with online merchants, thereby allowing the former to pay for digital content ordered from the latter. Over time, the Bango product suite has expanded, to allow payments for physical goods and also to allow resale and bundling of subscription services. The group has also added an analytics-based suite, designed to give customers greater insight into their consumers' behaviour.

In our view, Bango's extended path to sustainable profitability reflects two key points. Firstly, platform development has been ahead of the market, so that as the market has become available, Bango has been able to take on significant new business (e.g. Amazon) without costly new investment. Secondly, with this fixed cost base, management has taken a long-term view on the commercial model to enable more business to be generated by Bango partners, leading to greater long-term revenue opportunities. That said, Bango has become a key player in mobile payments. We note:

- The Bango Platform connects customers of some of the world's leading online merchants such as Amazon, Google and Microsoft with customers of some of the world's leading Mobile Network Operators ("MNOs") such as AT&T, NTT DoCoMo, Telefonica and Vodafone. All of these names are major blue-chip multinationals, and that they want to connect to the Bango Platform is, in our view, a significant vote of confidence in Bango Plc, its management and the Bango Platform.
- With partners including Amazon, Google and Samsung Bango has broad coverage across Android. The Android OS is by far the dominant platform with 75% global mobile operating system market share².
- Bango offers payment diversity – including DCB for physical and digital goods and services, mobile- wallets and emerging electronic currencies.

As a global DCB operator Bango processes many millions of transactions every year. As a result, the platform generates vast amounts of data on consumer payment behaviour, with much of it providing exclusive customer insight. Bango management has long seen the value of data to the business and is placing increasing strategic focus on the data business.

...to mobile commerce...

Analytics- based applications suite has long been available to customers as part of the Bango Platform, including:

- BANGO DASHBOARD – Gives app stores and operators the information and insights that enable higher payment success, thereby increasing EUS
- BANGO BOOST – Drives additional EUS by providing insights and actions which increase users and spend across the routes,

¹ <https://www.appsflyer.com/blog/app-install-ad-spend-predictions-2017-2020/>

² <http://gs.statcounter.com/os-market-share/mobile/worldwide>

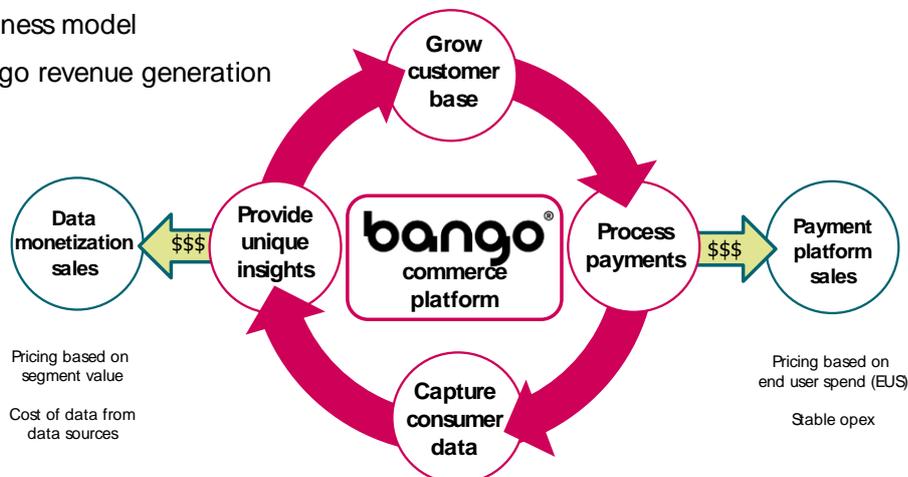
Each Mobile Network Operator (“MNO”) integrated with Bango gets access to these products at no extra cost to support and grow the success of their payment routes, with the value to Bango flowing from additional EUS generated.

Over the past 12/18 months, management attention has placed increasing strategic focus on driving additional revenue from data insights. The rationale behind this move is summarised in the following chart:

Bango – Virtuous strategic circle

Business model

Bango revenue generation



Source: Company Materials

The Bango payment strategy creates a virtuous circle, by increasing the customer base to generate more payments, this attracts more merchants, which attracts more customers. The addition of the data business supercharges this process. More customers = more data = more marketing which grows the customer base more rapidly, generating more payments and more data.

As discussed above, whilst the Bango analytics suite is able to provide sophisticated customer insights, it was historically provided to MNOs free of charge as a tool to stimulate payment volumes – benefitting both the MNO and Bango, which retains a percentage of the total end-user spend – EUS.

The 2018 acquisition of Audiens SRL, a cloud-based Customer Data Platform (“CDP”) was a further sign of Bango’s interest in the value of data insights. CDP’s combine data collected from many sources to enable customized audience segmenting, which is made available to advertisers through a range of third-party advertising channels. Advertisers can then market more accurately to relevant users based on a more comprehensive analysis of customer activities and capabilities, enabling data-driven decision making, yielding a higher ROI.

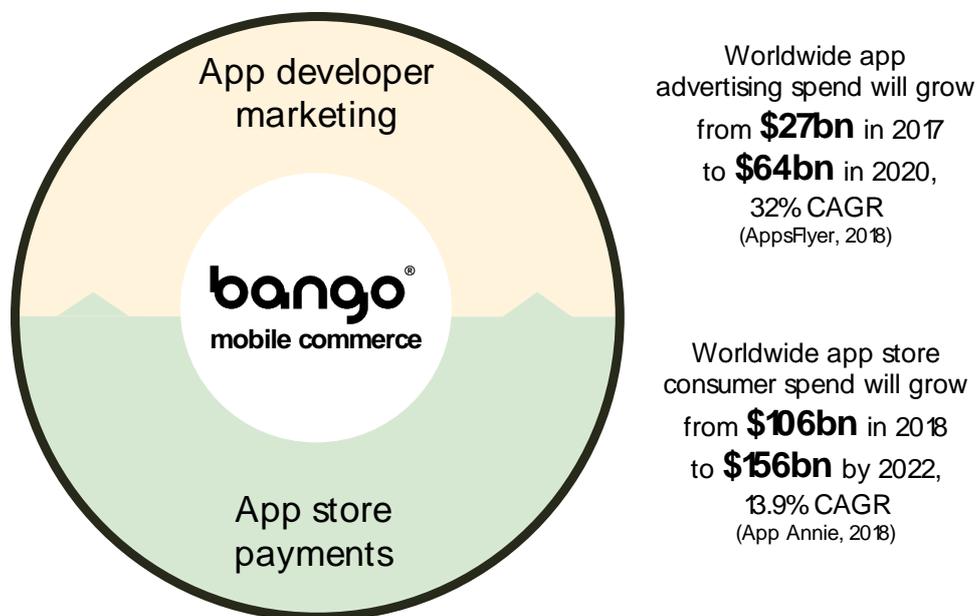
Having successfully seen the value of enabling advertisers to optimize their marketing, Bango has identified a further group of customers which would benefit from customer insight provided by the Bango Platform – app developers.

...with vast market opportunities in both

As we have noted in previous research, total worldwide spending in app stores has become a multi-billion-dollar market and industry participants continue to believe that growth prospects are good. Historically this has been Bango’s core market for DCB, although recent years have seen Bango extend DCB to physical goods and product resale. Providing audience data to app developers to focus their marketing spend

represents a significant new market for Bango. The following chart quantifies the two marketplaces where Bango is focussed.

Bango – Multi-billion-dollar market opportunities from app stores and developers



Source: Company Materials

By Q3 2018, there were around 5.5m apps available in the five major app stores³, with around 63% of those in the stores to which Bango provides DCB connectivity (Google Play, Windows, Amazon).

Global app advertising spend is expected to grow to an annual total of \$64bn by 2020⁴. Furthermore, a recent survey of app developers by the manifest.com claimed 35% of their survey responders dedicate 31-50% of their total app development budget to marketing, while another 21% spend 51-70%⁵.

Whilst customer spending on app stores is expected to remain Bango's largest market, app store developer spending is expected to grow significantly faster in the near-term – at more than double the rate of app store spending.

Bango Marketplace the mechanism to access developers

In order to directly access app developers, Bango has created an online portal called the Bango Marketplace. This will be discussed in the following section.

³ <https://www.statista.com/statistics/276623/number-of-apps-available-in-leading-app-stores/>

⁴ <https://www.appsflyer.com/blog/app-install-ad-spend-predictions-2017-2020/>

⁵ <https://themanifest.com/app-development/why-marketing-critical-mobile-app-success>

Bango Marketplace

Having identified that providing app developers with customer insight data as a multi-billion-dollar market opportunity, and that app developers spend up to half their budget on marketing, Bango has created the Bango Marketplace as an online portal to directly access the app developer community.

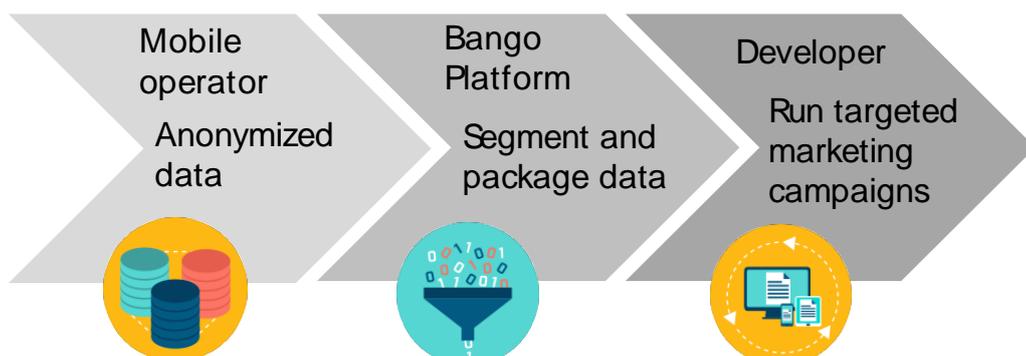
Bango Marketplace leverages Bango's global DCB and resale presence and customer reach. In addition to representing a material incremental growth opportunity, we believe it also represents a key source of competitive advantage for Bango, as in our view, competitors will struggle to generate comparable insight into customer behaviour.

A different business model to DCB

With Bango Marketplace, Bango is establishing a standardized process through which operators can support app developers and merchants to the benefit of both.

This connects Bango directly with the app developers that publish and market content that generates \$billions in consumer spending, giving operators (and potentially other payment providers) a way to provide payment insights that these developers can benefit from, all through a single source and business model. This is a different business model to the payments model, where Bango is an intermediary between an MNO (e.g. Vodafone) and a merchant (e.g. Google Play store). The following graphic explains the MNO-Bango-Developer relationship

Bango Marketplace – roles of participants



Source: Company materials.

In simple terms:

- The MNO provides opted-in, regulatory-compliant data to Bango
- Bango ensures customer anonymity and creates audience segments from the data and uploads to ad platforms (e.g. Facebook, Google) for the app developers use
- The app developer pays Bango for access (time limited) to the audience to optimise their marketing RoI. Campaigns can be started on the same day.
- Bango pays a fee to the MNO for use of their data.
- Bango measures and reports impact on payment performance from campaign.

Functionality

With most app developers spending a material part of their budget on advertising, the ability of developers to directly target appropriate potential customers represents a significant value-add for Bango.

The following graphics contain sample screenshots, of both the portal itself and the developer's Facebook control panel

Bango Marketplace – Portal screenshot

The screenshot displays the Bango Marketplace portal interface. At the top, there is a navigation bar with the Bango logo and a search icon. Below the navigation bar, there are two tabs: "Available offers" (selected) and "Requested offers". The main content area is a grid of eight offer cards, each featuring a map icon, a title, a description, and a "Facebook Audience" button.

Offer Title	Description	Facebook Audience	Country/Region
Indonesia - High spenders	Reach 20m top spenders in Indonesia	Facebook Audience	Indonesia
Canada High Spenders	Reach 1.9m top spenders in Canada	Facebook Audience	Canada
Dubai - Strategy Gamers	Reach 3m strategy gamers in Dubai	Facebook Audience	United Arab Emirates
Taiwan Gamers	Reach 250k Taiwan gamers	Facebook Audience	Taiwan
Australian High Spenders	Target top 20% Australian spenders	Facebook Audience	Australia
Korea - similar content	Target users who bought similar categories	Facebook Audience	Korea, Republic of
High LTV Saudi Spenders	Reach high spenders in Saudi Arabia	Facebook Audience	Saudi Arabia
High Spending Gamers	Reach 15m gamers in Singapore	Facebook Audience	Singapore

At the bottom of the page, there is a footer with links for "Bango.com", "Support", "Terms & conditions", "Privacy statement", and "Cookie policy", along with the copyright notice "Copyright © 2000–2019 Bango.net Limited".

Source: Company materials

Bango Marketplace – Facebook control panel screenshot

The screenshot shows the Facebook Ads Manager interface. The main content area displays a card for the audience "DCB enabled users (Italy)". The card includes the following information:

- Audience Name: DCB enabled users (Italy)
- Size: 250,000
- Type: Custom Audience
- Created: 09/10/2018 4:30pm
- Last Updated: 09/10/2018 4:31pm
- Labels: Add labels

Below the card, there is a section for "1 Lookalikes created from this audience" and an "Audience Details" section. At the bottom, an "Audience History" table shows a record for "Custom audience shared".

Activity	Activity Details	Item Changed	Name	Date and Time
Custom audience shared	owner: 472565056557684, recipient: 106439239474012	DCB enabled users (Italy) (23843022301550011)	Giacomo Landini	11/13/2018 at 11:20 AM

Source: Company materials

Although only a subset of the total available number of audiences, the graphic shows a number of subscriber bases of different sizes, in different regions and with different spending patterns. App developers can therefore allocate marketing budget to directly target their desired customer group.

The wider list of filters includes:

- Pay-proven users (e.g. previously made DCB payments)
- Frequent purchasers
- High spenders
- Loyal customers
- Buys games
- Pays to watch sport
- Pays to play e-sports
- Non-payers (i.e. stop marketing to customers who are not interested)

Early evidence of the benefits of the Bango Marketplace

Bango has deployed a global developer partnership team for Bango Marketplace, with staff in Cambridge UK, San Jose, Tokyo and Seoul.

Bango Marketplace was launched in calendar Q4 2018. In pre-launch tests in USA and Asia, developers were able to generate more than 2x the number of paying users from their campaigns by using customer segments from Bango Marketplace, compared to marketing without Bango.

At the recent Strategy Day, further data points on the benefits of Bango Marketplace use were revealed. According to Bango, the developer of a Karaoke app in Indonesia saw a 9x uplift in conversion of free users to premium following the use of Bango Marketplace.

Bango Marketplace is a win for MNOs

Historically, with the inhouse analytics suite (Dashboard, Boost) Bango has provided customer insight data to MNOs at zero cost to the MNO. The reasoning behind this particular pricing model being that MNOs would use this data to tailor their own marketing efforts which would in turn stimulate app demand thereby increasing payment volumes and spend (EUS) of which Bango receives a proportion. If spend increases, the app store, developer, MNO and Bango all stand to benefit.

In our view Bango Marketplace is highly attractive to MNOs:

- Focused app developer marketing should increase customer spend, from which the MNO retains a percentage
- MNOs receive a new revenue stream for the use of their data from fees directly paid by Bango

Bango Marketplace creates a monetary link between an MNO and a group (app developers) with which it may historically have had limited interaction. As both BT Group's (EE) recent interims and Vodafone's Q3 2018/19 results amply demonstrate, many MNOs continue to struggle to deliver sustained ARPU uplift. We believe the opportunity to generate revenue from a previously unavailable source will prove attractive to operators.

Although the actual level of the fee paid to the MNO has not been disclosed to date, as discussed above, pricing is a function of the particular audience segment.

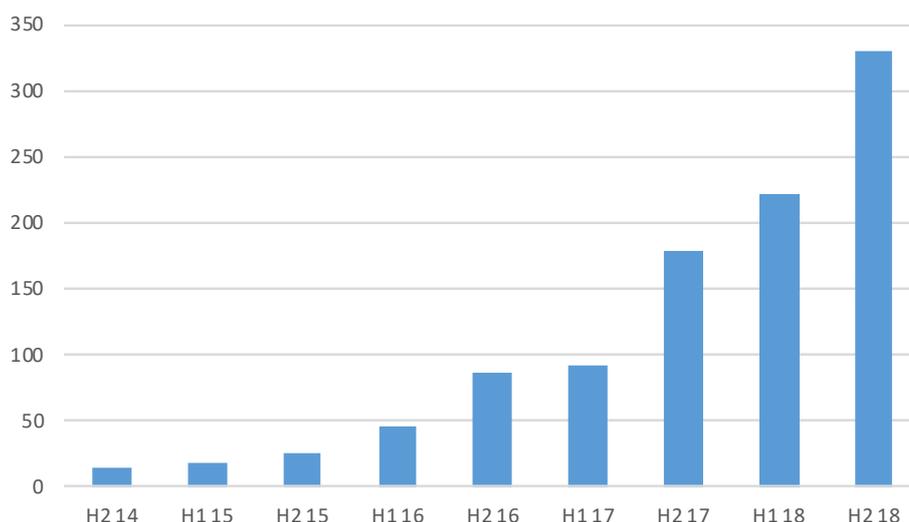
Trading update demonstrates continuing execution

In our view, Bango's recent trading update demonstrates that the business continues to deliver on its strategy. EUS continues to double and costs remain firmly under control.

EUS continues to double

Strong growth in EUS has been a feature of recent results releases from Bango, and the December 2018 Trading Update confirmed the trend continues. Including 2018, EUS has doubled in each of the past four years, as shown in the chart below.

Bango EUS – 2014A – 2018A (£m)



Source: Progressive Equity Research estimates.

Growth in EUS is being driven by multiple drivers, including:

- **New billing routes:** A number of new billing routes were added to the Bango Platform during 2018, significantly extending its reach. Market first launches included the ENTEL Chile route - the first Google Play DCB launch in South America, and the launch of the Tigo mobile wallet in Google Play, the first launch in Tanzania, continue Bango momentum in the emerging, Android-dominated smartphone regions.
- **Growth in DCB from physical goods sales:** 2018 is the first full year of operation for Bango's DCB for physical goods with Amazon Japan. Anecdotally, we understand performance has been in line with management's expectations.
- **New resale deals:** 2018 resale launches include Amazon Prime (UK, US and India) and also the Pandora music streaming service in the USA. These deals will make a partial contribution to FY 2018 financials, with a full-year impact from 2019 onwards.
- **Data already contributing:** Commentary in the trading update confirms increased revenue from Audiens CDP and initial Bango Marketplace sales.

Positive opex commentary

Although providing no detail, the release confirms costs are being maintained at expected levels. Historically, opex has been around £5m – although this excludes costs related to the new data business). Assuming this outcome for 2018 is confirmed, we continue to believe this to be a highly credible performance, given the material growth in the payments business being processed by the Bango Platform.

Financials

Following the Strategy Day and recent Trading Update, we make revisions to estimates. These are summarised in the following table.

Estimate changes

£m unless stated	FY 2018E			FY 2019E		
	Old	New	Change (%)	Old	New	Change (%)
End-user spend	540.0	550.0	2%	1404.0	1237.5	-12%
Revenue	7.1	6.6	-7%	11.3	11.3	0%
Fully adj EBITDA	1.0	-0.8	n/a	4.3	4.3	0%
Fully adj PBT	-1.0	-2.6	n/a	2.0	2.0	n/a
Cash & equiv.	6.5	3.6	-43.5%	10.9	8.1	-26%

Source: Progressive Equity Research estimates.

- Our FY 2018E EBITDA of £-0.8m is £1.8m lower than our previous estimate. The December 2018 Trading Update confirmed H2 2018E performance would be impacted by management's decision to take revenue on several new contracts for subscription services as long-term, as higher value annuity streams rather than a one-off, up-front fee. Our forecast closing cash position is now £3.6m, reflecting reduced profitability, but also the investment in the new data business stream.
- For FY 2019E, our EUS forecast is reduced from £1.4bn to £1.2bn. We have revised our expectations for the timing of certain large (lower margin on EUS) contracts. In offset, we now expect stronger performance from certain smaller (higher margin) contracts. The net result is no change to current-year revenue nor earnings estimates.
- We continue to expect positive EBITDA for FY 2019E, and also expect the group's financial position to be sufficient to fund the business through to sustained profitability and cash flow.

Summary and conclusion

Overall, we believe Bango's Strategy Day reassured on the group's strategic capabilities and ability to deliver on its targets. In summary, we draw the following key conclusions from the event:

- The Bango strategy continues to deliver – as evidenced by EUS having doubled in each of the past four years, and operating expenditure remaining under firm control
- Bango has long seen the value of the data insights generated by the Bango Platform. The revised strategy places increasing focus on data, opening up new revenue streams but is also expected to drive further growth of the payments business
- Data insights represents a material opportunity for Bango with app developer advertising spend alone is a \$64bn annual market. This is in addition to sales made by Audiens
- The Bango Marketplace has been launched to directly link MNOs and app developers for the first time and, we believe, it positions Bango strongly to take a share of that \$64bn market.

Financial Summary: Bango

Year end: December (£m unless shown)

	2015	2016	2017	2018E	2019E
PROFIT & LOSS					
EUS (Non-GAAP)	44.7	132.3	271.4	550.0	1,237.5
Revenue	1.3	2.6	4.2	6.6	11.3
Adj EBITDA	(3.1)	(2.4)	(1.6)	(0.8)	4.3
Reported PBT	(5.0)	(4.7)	(3.9)	(3.2)	1.7
Fully adj PBT	(5.0)	(4.1)	(3.6)	(2.6)	2.0
NOPAT	(2.6)	(2.9)	(2.0)	(1.7)	3.6
Reported EPS	(9.0)	(6.8)	(5.3)	(4.0)	2.8
Fully adj EPS	(9.5)	(6.3)	(5.5)	(3.7)	2.8
Dividend per share	0.0	0.0	0.0	0.0	0.0
CASH FLOW & BALANCE SHEET					
Operating cash flow	(3.5)	(2.6)	(0.7)	(3.9)	5.3
Free Cash flow	(4.1)	(6.0)	(2.2)	(4.7)	4.4
FCF per share	(7.8)	(9.2)	(3.4)	(6.7)	6.3
Acquisitions	0.0	0.0	0.0	(1.3)	0.0
Disposals	0.0	0.0	0.0	0.0	0.0
Shares issued	10.5	0.1	1.2	4.8	0.0
Currency effects	(0.1)	(0.1)	0.0	0.0	0.0
Net cash flow	5.9	(6.2)	(0.8)	(1.2)	4.4
Cash & equivalents	12.2	5.7	4.8	3.6	8.1
Net (Debt)/Cash	11.8	5.6	4.6	3.4	7.8
NAV AND RETURNS					
Net asset value	15.9	12.4	10.7	8.7	11.6
NAV/share	29.9	19.1	16.2	12.4	16.7
Net Tangible Asset Value	12.5	6.3	4.6	0.7	3.5
NTAV/share	19.3	9.7	7.1	1.0	4.9
Average equity	12.9	14.1	11.5	9.7	10.2
Post-tax ROE (%)	(37.4%)	(31.2%)	(30.3%)	(28.6%)	19.3%
METRICS					
EUS growth	77.5%	196.1%	105.1%	102.7%	125.0%
Revenue growth	(74.5%)	101.8%	58.2%	58.8%	70.7%
Adj EBITDA growth	(14.5%)	(22.9%)	(35.3%)	(46.5%)	(608.7%)
Adj PBT growth	(7.2%)	(18.6%)	(12.0%)	(27.7%)	(175.4%)
Adj EPS growth	10.8%	(33.0%)	(13.8%)	(31.6%)	(175.4%)
Dividend growth	N/A	N/A	N/A	N/A	N/A
Margin on EUS	2.9%	2.0%	1.5%	1.2%	0.9%
VALUATION					
EV/Sales	46.5	23.0	14.6	9.2	5.4
EV/EBITDA	(19.2)	(25.0)	(38.6)	(72.0)	14.2
EV/NOPAT	(23.1)	(20.7)	(30.0)	(34.8)	16.9
PER	N/A	N/A	N/A	N/A	32.9
Dividend yield	N/A	N/A	N/A	N/A	N/A
FCF yield	(8.4%)	(10.0%)	(3.7%)	(7.2%)	6.8%

Source: Company information and Progressive Equity Research estimates

Disclaimers and Disclosures

Copyright 2019 Progressive Equity Research Limited (“PERL”). All rights reserved. PERL provides professional equity research services, and the companies researched pay a fee in order for this research to be made available. This report has been commissioned by the subject company and prepared and issued by PERL for publication in the United Kingdom only. All information used in the publication of this report has been compiled from publicly available sources that are believed to be reliable; however, PERL does not guarantee the accuracy or completeness of this report. Opinions contained in this report represent those of the research department of PERL at the time of publication, and any estimates are those of PERL and not of the companies concerned unless specifically sourced otherwise. PERL is authorised and regulated by the Financial Conduct Authority (FCA) of the United Kingdom (registration number 697355).

This document is provided for information purposes only, and is not a solicitation or inducement to buy, sell, subscribe, or underwrite securities or units. Investors should seek advice from an Independent Financial Adviser or regulated stockbroker before making any investment decisions. PERL does not make investment recommendations. Any valuation given in a research note is the theoretical result of a study of a range of possible outcomes, and not a forecast of a likely share price. PERL does not undertake to provide updates to any opinions or views expressed in this document.

This document has not been approved for the purposes of Section 21(2) of the Financial Services & Markets Act 2000 of the United Kingdom. It has not been prepared in accordance with the legal requirements designed to promote the independence of investment research. It is not subject to any prohibition on dealing ahead of the dissemination of investment research.

PERL does not hold any positions in the securities mentioned in this report. However, PERL’s directors, officers, employees and contractors may have a position in any or related securities mentioned in this report. PERL or its affiliates may perform services or solicit business from any of the companies mentioned in this report.

The value of securities mentioned in this report can fall as well as rise and may be subject to large and sudden swings. In addition, the level of marketability of the shares mentioned in this report may result in significant trading spreads and sometimes may lead to difficulties in opening and/or closing positions. It may be difficult to obtain accurate information about the value of securities mentioned in this report. Past performance is not necessarily a guide to future performance.