

**xG Technology, Inc. (NASDAQ/XGTI)****BUY - Price \$0.27 / Target: \$1.00***xG Technology makes mobile video transmission equipment for media, law enforcement and military.**December 27, 2018**Barry M. Sine*  
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bsine@dawsonjames.com**Embedding 4k Video for Sports, Media and Government**

- We initiate coverage of xG Technology with a Buy rating and a \$1 twelve-month price target.
- xG makes professional quality equipment used to transmit high definition 4K video for television, sports, entertainment, law enforcement and military.
- It operates two brands that are well known to its customer base – IMT and Vislink – and is merging them into a single entity.
- A new CEO took over in July and his early focus was cost reduction and balance sheet stabilization. As a result, EBITDA break even is now pegged at \$9.5 mm to \$10 mm. The company was able to breakeven in 3Q with just \$8.3 mm in revenue.
- A number of industry trends are driving demand for the company's products such as television broadcast spectrum relocation and the desire by sports leagues to immerse cameras in the action to appeal to millennial viewers.
- xG has three hot new products which are extremely light but offer portable high definition video transmission. It is working three major orders which could serve as a breakout for revenue, EBITDA and the stock.
- We believe that the company's past issues hurt its ability to win major contracts. With these addressed, we look for more major contract wins.
- We think that 3Q was the trough in terms of revenue as quality issues from a vendor delayed some shipments and management was focused on cost cutting. The company ended the quarter with \$1 mm in unfilled orders, giving 4Q a strong tailwind.
- We forecast \$10.5 mm in 4Q revenue, and 5% annual growth thereafter. If the trends we discuss in this report come to pass, xG is more likely to see double digit revenue growth.
- EBITDA was barely breakeven in 3Q. We look for modest EBITDA over the next year, expanding to a 4% EBITDA margin in 2020. Longer term, 10% is not unrealistic if the company can scale revenue.
- Our \$1 price target equates to a multiple of just 0.5x revenue. Given a bit more visibility, 1x is more realistic for a healthy, growing company in this sector.



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Rating	Buy	<b>Earnings Per Share</b>				
Target Price	\$1.00	<b>Normalized to exclude unusual items</b>				
Ticker Symbol	XGTI	<b>FYE - December</b>	<b>2017</b>	<b>2018E</b>	<b>2019E</b>	<b>2020E</b>
Market	NASDAQ	1Q - March	\$0.84	(\$0.25) A	(\$0.10)	(\$0.09)
Stock Price	\$0.27	2Q - June	(\$0.09)	(\$0.40) A	(\$0.10)	(\$0.08)
52 wk High	\$1.75	3Q - September	(\$0.42)	(\$0.13) A	(\$0.09)	(\$0.08)
52 wk Low	\$0.22	4Q - December	(\$0.97)	(\$0.10)	(\$0.09)	(\$0.07)
Shares Outstanding:	18.7 M	<b>Year</b>	<b>(\$0.87)</b>	<b>(\$0.86)</b>	<b>(\$0.38)</b>	<b>(\$0.31)</b>
Public Market Float:	16.0 M	<b>Revenue (\$mm)</b>	<b>\$47.8</b>	<b>\$38.1</b>	<b>\$40.4</b>	<b>\$42.4</b>
Avg. Daily Volume	177,796	EV/Rev	0.2X	0.2X	0.2X	0.2X
Market Capitalization:	\$5.0 M	<b>EBITDA (\$mm)</b>	<b>\$6.0</b>	<b>(\$0.5)</b>	<b>\$0.7</b>	<b>\$1.8</b>
Institutional Holdings:	2.2%	EV/EBITDA	1.6X	NM	13.9X	5.4X
Dividend Yield:	0.0%					

Senior Executives		Common Ownership Profile		
		Shareholder	Shares ('000)	% of Total
Roger G. Branton	CEO and CFO	The Vanguard Group, Inc.	176.4	0.9%
John Payne	President and COO	G1 Execution Services LLC	57.9	0.3%
Hohn Procacci	VP - Sales	Macquarie Funds Management Hong Kong	28.7	0.2%
Daniel Carpini	VP - Marketing	Tiedemann Advisors LLC	26.6	0.1%
		Northern Trust Investments, Inc.	25.9	0.1%
		Directors and Officers	1,483	7.9%

Capitalization			
<b>Market Value Basis ('000)</b>			
	<b>12/24/2018</b>	<b>%</b>	
Long-Term Debt	\$5,632	59.5%	
Market Value of Equity	5,049	53.3%	
Less: cash	-1,209	-12.8%	
Enterprise Value	\$9,472	100.0%	
<b>Book Value Basis ('000)</b>			
	<b>09/30/2018</b>	<b>%</b>	
Long-Term Debt	\$5,632	19.2%	
Other Liabilities	13,867	47.3%	
Book Value of Equity	9,836	33.5%	
Total Capital	\$29,335	100.0%	



Source: Company reports, FactSet Data Systems and Dawson James estimates.

## Embedding 4k Video for Sports, Media and Government

We initiate coverage of xG Technology with a Buy rating and a \$1 price target. Our target equates to 0.5x our 2020 revenue estimate. xG makes electronic equipment that is used to transmit high definition video from mobile cameras. End users include television stations, sports teams and leagues, media companies, law enforcement and military. The company is undergoing a turnaround in 2018 with a new CEO taking over in July dramatically cutting costs. Unfortunately, revenue has suffered during this transition. We expect revenue to rebound, leading to increasing EBITDA for three reasons: First, the company has a relatively stable revenue base with dozens of customers repeatedly placing small orders. Second, it has just introduced three advanced new products for mobile transmission of video. And third, it is in discussions with several customers for sizable contracts any one of which could dramatically drive revenue, EBITDA and the stock price.

xG operates under two brand names: IMT and Vislink. Xg was the original business is essentially non-existent. xG originally dates back to 2002. The originally technology premise was around frequency sharing for wireless carriers and this technology could coexist with 2G, 3G and 4G, thus the name xG. The original xMax product set has not panned out and the company has contemplated selling it. This business does contain over 80 patents and with industry developments likely leading to greater spectrum sharing, the patents may have more value. But we would expect the company to look to sell the patent portfolio rather than litigating them. xG is headquartered in Sarasota, Florida but that office only houses two employees, the CEO and an assistant.

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### xG is Transitioning to the Acquired IMT and Vislink Brands

#### **xG Technology**

Sarasota, FL  
founded 2002



#### **Integrated Microwave Technologies**

Hackettstown, NJ  
acquired in Feb. 2016 for \$3 mm



#### **Vislink**

Colchester UK  
acquired in Jan.2017 for \$16 mm



*Source: Company reports*

IMT stands for Integrated Microwave Technologies and was acquired by xG in February 2016 for \$3 mm. IMT makes broadcast and law enforcement radio equipment. It was founded under the name Nucomm in 1990 by Dr. John Payne (father of the current COO) in Mt. Olive, New Jersey. He chose Mt. Olive, in northern New Jersey, due to the proximity of telecom engineering talent as AT&T was headquartered nearby while Bell Atlantic (now Verizon Communications) had a large presence in the area. AT&T has also gone through corporate changes with the former AT&T Bell Telephone Laboratories in nearby Murray Hill now owned by Nokia. Mt. Olive was also close to Pennsylvania with an ample supply of blue collar production workers. For those not familiar with the Garden State, the northeast section where Hackettstown is located is still very rural with relatively low costs. When we visited, we drove about six miles along a wooded two-lane country road after exiting interstate 80 to get to the company's facility.

IMT specializes in selling microwave communications equipment using COFDM technology. COFDM stands for coded orthogonal frequency multiplexing. Frequency division multiplexing technology goes back to the earliest days of the telegraph and telephone with significant work by both Thomas Edison and Alexander Graham Bell. FDM simply means making use of different frequencies to send multiple signals over a single transmission medium which could be wire or radio. The term orthogonal is defined in English as involving right angles or in statistics as statistically independent. So OFDM just uses statistically independent frequencies to send multiple signals. The C stands for coded which means that error correction signals are added to overcome the interference effects from multipath propagation and the Doppler effect. Multipath propagation means that the signal may take multiple paths from transmitter to receiver so that the same signal arrives repeatedly at multiple times. The Doppler effect describes the fact that if receiver and transmitter are moving in relation to each other, the frequency of the signal will change. In practical terms, the application of COFDM means that the company's equipment can send a lot of data with very high quality.

Vislink is headquartered in Colchester UK and has a similar product set to IMT while also giving xG a presence in Europe. Vislink is very similar to IMT in that it specializes in live video transmission equipment selling to broadcasters and law enforcement. Its equipment can be used in satellite, cellular or private radio applications such as when a TV news crew is sending footage back to the studio.

In reality the distinctions between IMT and Vislink are blurring and many products are branded under the IMT Vislink name today. Both have a strong reputation among customers. We expect the company to ultimately rebrand the parent company to some iteration of IMT Vislink. Vislink products now utilize the COFDM technology IMT is known for. The company is consolidating facilities to save costs and we expect more manufacturing and repair work to move to IMT's Hackettstown facility over the next year.

## **At the Trough of a Turnaround**

XG Technology is a difficult company to analyze as it just passed the low point in a critical strategic transformation led by a new CEO who was appointed in July. Looking at historic financial statements and earnings releases the picture painted is one of a company in decline and financial distress.

But we believe the actual situation is very different. In preparing this report we spent a day at the company's Hackettstown, NJ offices with new CEO Roger Branton, and COO John Payne. They were both very forthcoming describing a turnaround that is not yet apparent from the company's financial documents.

Mr. Branton is a co-founder of xG Technology. John Payne's father, Dr. John Payne founded predecessor company Nucomm in New Jersey in 1990. He joined Nucomm in 1996 after earning a bachelor's degree in electrical engineering at the Rochester Institute of Technology in 1993 and a master's degree in electronic engineering from the University of Southern California in 1996. Mr. Payne has a number of patents to his name. Payne toured us around the company's Hackettstown, New Jersey facilities and intimately knew every employee, every customer and every product and part in inventory. We view him as an indispensable part of the company, but fortunately, he and Branton appear to get along extremely well.

Branton told us a fascinating story of the company's turnaround during 2018 which involved steep cost reduction, balance sheet repair and a renewed focus on securing large orders. At the start of the year, xG was burning around \$8,000 per month and its weak balance sheet was causing issues with suppliers. On April 30, the company announced \$5 mm in cost reductions and it has now achieved \$9.5 mm in run rate cost reductions through staff cuts and facility consolidations. It has reduced headcount by 65 people, closed an office and warehouse in Sunrise, FL and is consolidating other offices, looking to sublet some buildings with longer leases or exit the leases. This now puts the company's break-even at \$9.5 to \$10 mm in revenue per quarter although it was able to eke out a positive \$69,000 in adjusted EBITDA on \$8.3 mm in revenue in the most recent quarter.

These changes were interspersed with board and management turnover. On April 23, 2018 CEO George Schmidt announced his retirement as chairman and CEO. Schmidt has had a long career in the wireless industry, has been elected to the Wireless Hall of Fame, and is well-known to investors, but it was time for a change at xG. The board immediately named board member Gary Curcio as chair and interim CEO. On July 25, 2018 Roger Branton was elected CEO. He continues to hold the Chief Financial Officer role.

To clean up the balance sheet, on May 30, 2018 the company completed an offering of \$4 mm of 6% senior secured convertible debt with a 40% conversion premium or \$1 per share. The bonds mature on May 19, 2019. The proceeds from the offering were immediately spent, but they went to several important purposes. After fees, the company reaped proceeds of \$3.637 mm. Of this, it spent \$625 k on severance and another \$2.5 mm to catch up payments with vendors, restoring its ability to receive timely shipments of components. On December 4, 2018 it completed another \$2 mm financing. This offering was of 10% Senior Secured Convertible Debentures with a conversion price of \$0.45 and a maturity date of September 30, 2019.

During the course of 2018 the company has incurred other challenges. On the company's second quarter earnings call, Roger Branton's first as CEO, a knowledgeable individual investor called out the company on reporting a 33.7% year over year decline in revenue. Management agreed that while there had been a focus on cost cutting, it had perhaps taken its eye off the ball in terms of growth, but vowed that this would change.

The company also disclosed another issue in which a supplier shipped defective circuit boards for one of the company's key video products, which ultimately made their way to an important customer. The company had to take back the products and repair or replace them. It has since replaced the vendor with another long-term trusted vendor, but the damage was done. At the end of the quarter the company was left with about \$1 mm in unshipped orders resulting in a drop in revenue from \$9.4 mm in 2Q to just \$8.3 mm in 3Q. The silver lining is that this million dollars gives the company a strong tailwind heading into 4Q.

Management has noted that it has a solid base of revenue from numerous broadcast and law enforcement customers placing orders but this tends to get lost with press releases focusing on big ticket contracts. Our tour of the Hackettstown shop floor and inventory with Mr. Payne gave us a better sense of this recurring revenue. Practically every TV station in America likely uses at least one piece of IMT equipment. During our tour we saw new orders or repairs marked with the call letters (e.g. KABC or WJM) of dozens of TV stations around the country. We also saw products marked with the names of dozens of law enforcement agencies from all over the country. IMT's website list 28 types of products under the broadcast, defense, public safety, sports, entertainment and houses of worship categories. The company has hundreds of individual products. It is repeat orders from these hundreds of customers for new products or repairs of the company's huge catalog of products.

We discussed with management potential savings from narrowing the product set and reducing inventory. At some point it makes sense to stop supporting and repairing older products and encourage the customer to buy new products. The long product list has led to an even longer list of repair parts inventory. The company has about \$20 mm in inventory, but with write-downs, it carries a balance of \$14.2 mm. Another area we discussed was raising prices on repair inventory to match the value to the customer. If the choice is between repairing a piece of electronic equipment or incurring a \$10,000 replacement cost, the customer would likely be willing to pay much more than the \$100 it cost the company to make the part, not to mention finance it in inventory for years. Could it charge \$1,000 for such a part? These are the types of discussions management is having under the new CEO.

The company is focused on three key verticals: broadcasting, sports and entertainment and public safety/defense.

## **Broadcast**

As noted, the company has a deep penetration into the broadcast market with nearly every TV station in the U.S. using at least one piece of its equipment and ongoing relationships with broadcasters. The broadcast industry is going through a transformation now as many broadcasters gave up their broadcast spectrum in the 2016 Broadcast Incentive Auction. The FCC raised \$19.8 billion auctioning off spectrum to wireless carriers, splitting the revenue with broadcasters to incentivize them to voluntarily relocate their broadcast spectrum. On April 13, 2017 the FCC formally closed the auction starting a 39 month period during which participating broadcasters will transition to new channel assignments. While the company does not make broadcast transmitters, this process has led to an overall revamping of the equipment broadcasters use, and new orders for the company's equipment. Nearly 1,000 television stations are affected so potential revenue for the company is \$50 mm.

In addition to local television stations, the company counts all four of the major networks, C-SPAN, CNN, PBS and Spanish language broadcaster Univision as its clients in the U.S. It also sells equipment to the state television broadcaster in China – China Central Television (CCTV) – with its 50 broadcast channels.

The company has partnered with the largest manufacturer of professional mobile television cameras – Panasonic. IMT Vislink wireless products are attached to Panasonic cameras to allow for live transmission of the signal. The two jointly showed their product at the most recent National Association of Broadcasters convention in April in Orlando and the International Broadcasters Conference in Amsterdam in September.

The company lists eight categories of products on its website. We will discuss three particularly hot new products later in this report.

- UAV/Drone for broadcast
- Newsnet – “taking your studio to the scene” – first major foray into a software product for the company
- Central receive sites
- Point-to-point microwave
- Electronic news gathering vehicle
- Wireless camera
- Portable systems
- Airborne systems (helicopters)

## Sports and Entertainment

With all of the competitive changes occurring in the entertainment industry live content has increased in value as it is irreplaceable – a video outlet is either broadcasting the SuperBowl or it isn't. To fans, there are no substitutes. But all of the major sports leagues are facing challenges appealing to millennials and Gen Zers with their shorter attention spans and interest in more immersive interactive programming. The solution is to bring the cameras closer to the action using on field cameras, drones or cameras embedded in uniforms. IMT Vislink makes modules for all of these and its Dragonfly product weighs just 1.2 ounces.

The company lists 4 or 5 teams from each of the four national U.S. sports leagues as customers. If you have ever seen the popular kisscam feature at sporting events it is likely that the camera is using IMT Vislink transmission equipment to send the signal to the jumbotron. Its products are also used in the production of popular reality programming such as *The Biggest Loser* and *Dirty Jobs*. One product that is highly visible are the new NHL refcams where the referees wear helmets with cameras and IMT Vislink transmitters embedded in them. The company has also shown its products in use for yacht racing, motocross and Formula One auto racing. A *Wall Street Journal* article last week discussed the popularity of eSports or tournaments where millennials watch other millennials play video games. IMT Vislink cameras are used in producing eSports tournaments.

One trend in the media industry is an explosion in content spending as over the top (OTT) video platforms proliferate, some owned by massive deep-pocketed companies. Amazon is reportedly planning to spend one billion dollars on a new multi-year series based on the Lord of the Rings novels. IMT Vislink equipment is not used for the video footage consumers see in theaters, but producers do use it to capture their own video of each day's filming so they can review it nightly to determine whether reshoots are necessary.

The company lists five categories of products for sport and entertainment:

- Wireless camera systems
- Campus-wide systems
- Drone/UAV
- Arena systems

- Action cam

A key reason why we are optimistic on the company's future is that there is a major disconnect between the number of 4k TVs purchased by consumers, and the scarcity of 4k content on TV. The term 4k means refers to the number of pixels in a digital image. So 4k means 4,000 pixels or picture elements. While Netflix and Amazon have been at the forefront of introducing 4k content, most TV programming is still shot in lower resolutions. But most TVs sold today support 4k and at least one industry forecaster expects that most homes in the U.S. will have at least one 4k TV by 2020. Even as the 4k wave is still cresting, the industry is starting to introduce 8k TVs, setting up another wave of demand for xG Technology. Foxconn has announced construction of a major \$10 billion, 20 mm square foot (eleven football fields) factory in Wisconsin to produce 8k TVs. But don't look for 16k wave after that as the human eye can only perceive detail up to 10k.

## **Public Safety / Defense**

The company sells into numerous law enforcement agencies and military branches. We saw new or repair equipment marked with the names of police departments all over the company when we toured the Hackettstown facility. It also sells into most of the three letter law enforcement agencies such as the FBI. In its investor deck, the company shows footage from an Orange County (California) Sheriff's Office helicopter tracking a suspect use a thermal camera from a helicopter. IMT Vislink transmission equipment is used to send the signal from the on-board camera. In this application, deputies could view the footage in real time on their mobile devices. This way, they knew if the bad guy was just around the corner and if he was armed. Santa visited IMT Vislink early last week delivering over \$400,000 in orders from law enforcement agencies in the states of California and Washington.

The company lists the following product categories for law enforcement:

- Airborne systems
- Fixed receive systems
- Mobile command center
- Concealment
- Tactical systems
- UAV/Drone
- Video management

A good example of how IMT Vislink products could be used for the military is to recall the footage of President Obama and his team watching live footage of the capture of Osama bin Laden. The same lightweight video transmission equipment the company makes to embed in the helmet of an NHL referee is ruggedized and used to transmit video images from cameras mounted on the helmets of special forces from the U.S. and other countries. The company has a relationship with a company called MOHOC which makes video cameras for military helmets. (MOHOC refers to the Mohawk haircut since helmets with its cameras on top resemble a Mohawk haircut). IMT Vislink supplies the ultra-lightweight wireless video transmission equipment. The company's modules are also embedded in drones or military robots to send real time video of enemy activity to troops.

The company lists seven categories of defense products:

- Ground receivers
- Drone/unmanned systems
- Tactical systems
- Expeditionary operations center (EOC)
- Intelligence, surveillance and reconnaissance (ISR)
- Body worn transmitters
- Robotic integrations

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### Three Hot New Products Should Drive Growth

**HCAM 4K**                    **\$40,000**  
HEVC 4K UHD camera transmitter  
21 ounces



**Microlite 2**                    **\$10,000**  
HD COFDM camera transmitter  
6.5 ounces



**Dragonfly**                    **\$7,500**  
Miniature COFDM camera transmitter  
1.2 ounces



*Source: Company reports and Dawson James estimates*

### Three Hot New Products

During our visit and in the company’s recent investor presentations, it is calling out three new related products (see table below). All use the COFDM technology we discussed previously, are lightweight and are used to transmit video from mobile equipment. The HCAM 4k is attached to video cameras like those made by Panasonic for television crews. At 21 ounces it is the heaviest of the three but since it offers the highest resolution, it is also the most expensive with a list price of \$40,000. The \$10,000 Microlite 2 is lighter in weight at just 6.5 ounces and can be attached to a person’s clothing. The Dragonfly is tiny at only 1.2 ounces and carries list price of \$7,500. For applications where weight is an issue, such as SWAT teams or special forces, this transmitter can be attached to a helmet to send live signals from a separate camera. We note that each has applications across all customer segments. For example, Dragonfly might be used for both a Navy Seal and an NHL referee. When we visited, management noted that they are in discussions around three or four large orders. One for Dragonfly could be worth over \$20 mm at list prices.

So Roger Branton promised the investor on the 2Q earnings call, the company is returning its focus to the topline, having now addressed expenses and the balance sheet.

## **We Forecast 5% Revenue Growth in 2019 and 2020**

We forecast a sequential pickup in revenue in the fourth quarter to \$10.6 mm as we think the \$8.3 mm reported in 3Q was the low point in revenue. The third quarter was beset with supplier quality issues and concerns about the company's finances while management was more focused on cost cutting. Now, with more of a new product/sales focus, strong end markets and innovative products, we expect revenue to respond. Recall that the company ended September with a \$1 mm unfilled order. We forecast 5% topline growth going forward, except for 3Q 2019 when it should post stronger revenue growth compared to the weak third quarter of 2018.

As noted, the company has dramatically cut costs and was able to post slightly positive adjusted EBITDA in the third quarter on just \$8.3 mm in revenue. We forecast continued near breakeven EBITDA through 2019, and a more respectable 4% EBITDA margin in 2020. Longer term, with acquisitions and growth, getting the company to scale could mean 10% EBITDA margins based on the past performance of similar companies. Our forecast assumes a continued 50% gross margin and the impact of cost cutting on G&A. R&D spending has suffered with the cost cutting, but we believe some of the reduction was due to overhead cuts and was not all personnel. However, one risk to our forecast is that the company may decide that increasing R&D back to prior levels is warranted by the likely return on investment.

## **At 0.5x 2020E Revenue, Shares Worth \$1**

The six comps we use trade in a range of 0.0x to 1.1x revenue with an average of 0.6x. Westell at 0.0x is a bit of an outlier as the stock trades for only \$1.2 mm above the cash on the books as the market ascribes no value to its core business. Our \$1 price target works out to a multiple of 0.5x revenue. XGTI is an extremely small cap stock with very limited liquidity and thus it trades at an enormous discount. Should the company start growing revenue and posting positive EBITDA consistently, we expect a virtuous cycle with an end to toxic financings, a higher stock price and greater liquidity leading to a higher valuation. This would all start with a strong fourth quarter, but unfortunately investors will have to wait until next spring to find out when the company next reports.

## **Warrants, Options and Convertibles Could Increase the Share Count by 67%**

The company has 11.9 mm warrants outstanding with a weighted average exercise price of \$2.21 per share and 6.1 mm options with a weighted average exercise price of \$1.55. We think it is safe to ignore most of these as they are too far out of the money with the stock currently at \$0.23 and our \$1 price target. However, should the share price perform as we expect, we can see the share count increasing by 11.9 mm shares, with options and warrants proceeds totaling \$3.4 mm upon warrant and option exercise. This would represent a 67% increase in the share count, leading to significant dilution. But, if all were exercised, it would mean that the stock had significantly appreciated, likely on dramatically improved business results. Given the uncertainty in when and whether the stock price will move, we have not factored this dilution into our forecast.

## Our \$1 Target Works Out to Just 0.5x Our 2020 Revenue Estimate

Company Name	Fiscal Period	Price	Shares Outstanding	Market Value	Enterprise Value	Sales	EBIT	EBITDA	Enterprise Value/Sales
xG Technology	09/30/2018	\$0.27	18.7	4.7	9.1	47.8	(20.7)	(16.3)	0.2x
XGTI @ 2020E	12/31/20	\$0.27	18.7	4.7	9.1	42.4	(5.8)	1.8	0.2x
XGTI @ target on 2020E	12/31/20	\$1.00	18.7	18.7	23.1	42.4	(5.8)	1.8	0.5x
CalAmp Corp.	11/30/2018	\$12.05	34.3	412.8	383.5	365.9	15.4	38.3	1.0x
Digi International Inc.	09/30/2018	\$9.29	27.5	255.2	192.4	228.4	5.7	18.0	0.8x
Sierra Wireless Inc.	09/30/2018	\$13.07	36.1	472.6	404.9	692.1	11.7	42.2	0.6x
Technicolor SA	06/30/2018	\$0.95	414.5	395.2	1,450.7	4,772.3	46.2	316.9	0.3x
Westell Technologies, Inc. Class A	09/30/2018	\$1.90	12.1	29.7	1.2	58.6	(1.3)	3.7	0.0x
Wireless Telecom Group, Inc.	09/30/2018	\$1.46	21.0	30.6	29.9	46.1	(1.0)	0.6	0.6x
<b>Average</b>									<b>0.6x</b>

Source: Company reports and Dawson James estimates

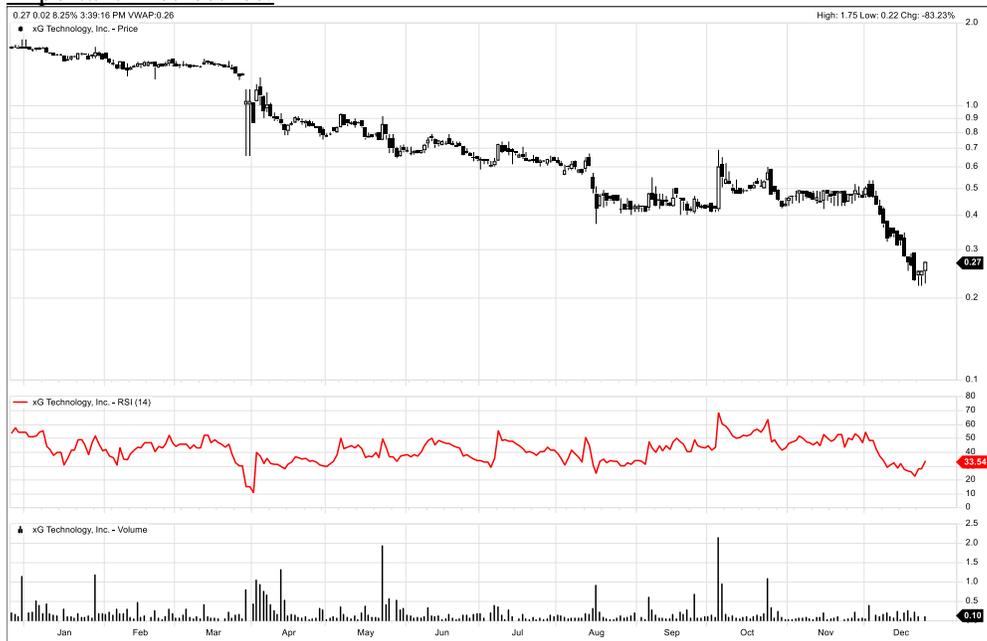
## xG Technology Forecast

Dollars in thousands, except per share data  
Fiscal years ended December 31

	2018E					2019E					2020E				
	1QA	2QA	3QA	4Q	YEAR	1Q	2Q	3Q	4Q	YEAR	1Q	2Q	3Q	4Q	YEAR
<b>Total revenue</b>	<b>9,733</b>	<b>9,424</b>	<b>8,325</b>	<b>10,585</b>	<b>38,067</b>	<b>10,220</b>	<b>9,895</b>	<b>9,158</b>	<b>11,114</b>	<b>40,386</b>	<b>10,731</b>	<b>10,390</b>	<b>9,615</b>	<b>11,670</b>	<b>42,406</b>
YoY growth	4.3%	-33.7%	-18.0%	-25.0%	-20.4%	5.0%	5.0%	10.0%	5.0%	6.1%	5.0%	5.0%	5.0%	5.0%	5.0%
Seq growth	-31.0%	-3.2%	-11.7%	27.1%	259.6%	-3.4%	-3.2%	-7.5%	21.4%	263.4%	-3.4%	-3.2%	-7.5%	21.4%	263.4%
<b>Cost of components and personnel</b>	<b>4,790</b>	<b>4,487</b>	<b>4,230</b>	<b>5,292</b>	<b>18,799</b>	<b>5,110</b>	<b>4,948</b>	<b>4,579</b>	<b>5,557</b>	<b>20,193</b>	<b>5,365</b>	<b>5,195</b>	<b>4,808</b>	<b>5,835</b>	<b>21,203</b>
As a percent of revenue	49.2%	47.6%	50.8%	50.0%	49.4%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%
<b>General and administrative expense</b>	<b>5,832</b>	<b>6,028</b>	<b>4,718</b>	<b>4,763</b>	<b>21,341</b>	<b>4,599</b>	<b>4,453</b>	<b>4,121</b>	<b>5,001</b>	<b>18,174</b>	<b>4,829</b>	<b>4,675</b>	<b>4,327</b>	<b>5,251</b>	<b>19,083</b>
As a percent of revenue	59.9%	64.0%	56.7%	45.0%	56.1%	45.0%	45.0%	45.0%	45.0%	45.0%	45.0%	45.0%	45.0%	45.0%	45.0%
<b>Research and development</b>	<b>2,442</b>	<b>2,925</b>	<b>1,286</b>	<b>1,376</b>	<b>8,029</b>	<b>1,533</b>	<b>1,484</b>	<b>1,374</b>	<b>1,445</b>	<b>5,836</b>	<b>1,395</b>	<b>1,351</b>	<b>1,250</b>	<b>1,167</b>	<b>5,163</b>
As a percent of revenue	25.1%	31.0%	15.4%	13.0%	21.1%	15.0%	15.0%	15.0%	13.0%	14.4%	13.0%	13.0%	13.0%	10.0%	12.2%
Inventory valuation adjustments	113	121	119	-	353	-	-	-	-	-	-	-	-	-	-
Impairment charges	-	168	-	-	168	-	-	-	-	-	-	-	-	-	-
Depreciation and amortization	887	818	671	700	3,076	700	700	700	700	2,800	700	700	700	700	2,800
<b>Operating Income</b>	<b>(4,331)</b>	<b>(5,123)</b>	<b>(2,699)</b>	<b>(1,547)</b>	<b>(13,700)</b>	<b>(1,722)</b>	<b>(1,690)</b>	<b>(1,616)</b>	<b>(1,589)</b>	<b>(6,616)</b>	<b>(1,558)</b>	<b>(1,531)</b>	<b>(1,469)</b>	<b>(1,283)</b>	<b>(5,842)</b>
Operating margin	-44.5%	-54.4%	-32.4%	-14.6%	-36.0%	-16.8%	-17.1%	-17.6%	-14.3%	-16.4%	-14.5%	-14.7%	-15.3%	-11.0%	-13.8%
Changes in fair value of derivatives	609	605	848	-	2,062	-	-	-	-	-	-	-	-	-	-
Gain on bargain purchase	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gain on debt / payables	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other expense	-	38	13	-	51	-	-	-	-	-	-	-	-	-	-
Interest expense	(47)	(1,903)	(369)	(141)	(2,460)	(141)	(141)	(141)	(141)	(563)	(141)	(141)	(141)	(141)	(563)
<b>Net income to common</b>	<b>(3,769)</b>	<b>(6,383)</b>	<b>(2,207)</b>	<b>(1,688)</b>	<b>(14,047)</b>	<b>(1,863)</b>	<b>(1,830)</b>	<b>(1,757)</b>	<b>(1,730)</b>	<b>(7,180)</b>	<b>(1,699)</b>	<b>(1,672)</b>	<b>(1,610)</b>	<b>(1,424)</b>	<b>(6,406)</b>
Net income margin	-38.7%	-67.7%	-26.5%	-15.9%	-36.9%	-18.2%	-18.5%	-19.2%	-15.6%	-17.8%	-15.8%	-16.1%	-16.7%	-12.2%	-15.1%
Diluted shares outstanding	14,948	16,154	16,916	17,416	16,359	17,916	18,416	18,916	19,416	18,666	19,916	20,416	20,916	21,416	20,666
Seq change	2,103	1,206	762	500	500	500	500	500	500	500	500	500	500	500	500
<b>EPS diluted - continuing</b>	<b>(\$0.25)</b>	<b>(\$0.40)</b>	<b>(\$0.13)</b>	<b>(\$0.10)</b>	<b>(\$0.86)</b>	<b>(\$0.10)</b>	<b>(\$0.10)</b>	<b>(\$0.09)</b>	<b>(\$0.09)</b>	<b>(\$0.38)</b>	<b>(\$0.09)</b>	<b>(\$0.08)</b>	<b>(\$0.08)</b>	<b>(\$0.07)</b>	<b>(\$0.31)</b>
<b>Non-GAAP EPS</b>															
Net income	(3,769)	(6,383)	(2,207)	(1,688)	(14,047)	(1,863)	(1,830)	(1,757)	(1,730)	(7,180)	(1,699)	(1,672)	(1,610)	(1,424)	(6,406)
Stock option expense	815	1,660	639	700	3,814	700	700	700	700	2,800	700	700	700	700	2,800
One-time expenses	-	1,858	339	-	2,197	-	-	-	-	-	-	-	-	-	-
Discontinued operations	2,453	2,117	710	700	5,980	700	700	700	700	2,800	700	700	700	700	2,800
<b>Net income to common</b>	<b>(501)</b>	<b>(748)</b>	<b>(519)</b>	<b>(288)</b>	<b>(2,056)</b>	<b>(463)</b>	<b>(430)</b>	<b>(357)</b>	<b>(330)</b>	<b>(1,580)</b>	<b>(299)</b>	<b>(272)</b>	<b>(210)</b>	<b>(24)</b>	<b>(806)</b>
<b>EPS diluted - continuing</b>	<b>(\$0.03)</b>	<b>(\$0.05)</b>	<b>(\$0.03)</b>	<b>(\$0.02)</b>	<b>(\$0.13)</b>	<b>(\$0.03)</b>	<b>(\$0.02)</b>	<b>(\$0.02)</b>	<b>(\$0.02)</b>	<b>(\$0.08)</b>	<b>(\$0.02)</b>	<b>(\$0.01)</b>	<b>(\$0.01)</b>	<b>(\$0.00)</b>	<b>(\$0.04)</b>
<b>Adjusted EBITDA</b>															
Net income	(3,769)	(6,383)	(2,207)	(1,688)	(14,047)	(1,863)	(1,830)	(1,757)	(1,730)	(7,180)	(1,699)	(1,672)	(1,610)	(1,424)	(6,406)
Interest	47	1,903	369	141	2,460	141	141	141	141	563	141	141	141	141	563
Depreciation and amortization	887	818	671	700	3,076	700	700	700	700	2,800	700	700	700	700	2,800
Stock option expense	815	1,660	639	700	3,814	700	700	700	700	2,800	700	700	700	700	2,800
One-time expenses	-	-	81	-	81	-	-	-	-	-	-	-	-	-	-
Discontinued operations	1,841	1,780	516	5	4,142	500	200	500	500	1,700	500	500	500	500	2,000
<b>Adjusted EBITDA</b>	<b>(179)</b>	<b>(222)</b>	<b>69</b>	<b>(142)</b>	<b>(474)</b>	<b>178</b>	<b>(90)</b>	<b>284</b>	<b>311</b>	<b>684</b>	<b>342</b>	<b>369</b>	<b>431</b>	<b>617</b>	<b>1,758</b>
Adjusted EBITDA margin	-1.8%	-2.4%	0.8%	-1.3%	-1.2%	1.7%	-0.9%	3.1%	2.8%	1.7%	3.2%	3.5%	4.5%	5.3%	4.1%

Source: Company reports and Dawson James estimates

**Important Disclosures:**



Source: FactSet Data Systems

Price target and ratings changes over the past 3 years:

Initiated – Buy – December 27, 2018 – Price Target \$1.00

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## VALUATION

Our \$1.00 price target values the stock at 0.5x our 2020 revenue estimate.

## RISK FACTORS

1. As we have discussed in this report, xG has a recent history of declining revenue, losses and toxic financing. We believe that 3Q was the trough in terms of revenue, and even then, cost cutting has allowed it to post positive EBITDA. However, if recent trends continue, bankruptcy is likely and the stock would likely be worthless.
2. A number of significantly larger companies compete against various of the company's products. While its strong, long-term customer relationships, strong customer service and innovative products have kept it competitive, competitors could take business away if they chose to target one or more of the company's niches.
3. XGTI shares are subject to the risks typically associated with smaller, illiquid companies such as lower valuations and difficulty executing larger trades without impacting the stock price. Over time, as revenue increases and the market cap grows, this impact is likely to lessen.

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- 1) Buy: the analyst believes the price of the stock will appreciate and produce a total return of at least 20% over the next 12-18 months;
- 2) Neutral: the analyst believes the price of the stock is fairly valued for the next 12-18 months;
- 3) Sell: the analyst believes the price of the stock will decline by at least 20% over the next 12-18 months and should be sold.

The following chart reflects the range of current research report ratings for all companies followed by the analysts of the Firm. The chart also reflects the research report ratings relating to those companies for which the Firm has performed investment banking services in the last twelve months.

Ratings Distribution	Company Coverage		Investment Banking	
	# of Companies	% of Total	# of Companies	% of Totals
Market Outperform (Buy)	43	90%	10	23%
Market Perform (Neutral)	5	10%	0	0%
Market Underperform (Sell)	0	0%	0	0%
<b>Total</b>	<b>48</b>	<b>100%</b>	<b>10</b>	<b>21%</b>

### Analyst Certification:

The analyst(s) whose name appears on this research report certifies that 1) all of the views expressed in this report accurately reflect his (their) personal views about any and all of the subject securities or issuers discussed; and 2) no part of the research analyst's compensation was, is, or will be directly or indirectly related to the specific recommendations or views expressed by the research analyst in this research report; and 3) all Dawson James employees, including the analyst(s) responsible for preparing this research report, may be eligible to receive non-product or service specific monetary bonus compensation that is based upon various factors, including total revenues of Dawson James and its affiliates as well as a portion of the proceeds from a broad pool of investment vehicles consisting of components of the compensation generated by investment banking activities, including but not limited to shares of stock and/or warrants, which may or may not include the securities referenced in this report.