

**inTEST Corporation (NYSE/INTT)****BUY - Price \$5.70 / Target: \$10.00***inTEST makes equipment used in factories for testing semiconductors and for general industrial manufacturing using thermal processes.**December 28, 2018**Barry M. Sine*  
Senior Research Analyst  
561-208-2925  
bsine@dawsonjames.com**Equipment for Semiconductor and Industrial Manufacturing**

- We initiate coverage of inTEST Corporation with a Buy rating and a \$10 price target.
- The company has two segments: EMS or electromechanical semiconductor products at around a quarter of revenue, and thermal at around three quarters of revenue. Both carry similar gross margins of around 50%, so the profit contributions are also similar.
- The company's roots are in the EMS sector and it sells into many of the major semiconductor manufacturers globally. Its products are used in semiconductor fabrication factories (fabs) to move and test semiconductors during manufacturing.
- The semiconductor industry has seen strong growth in recent years, driving inTEST's results. Longer-term with trends such as 5G and the internet of things (IoT) semiconductor demand should continue to grow, although the industry is highly cyclical and may pause in the near term.
- The thermal segment makes products that make parts either very hot or very cold during manufacturing and testing. This segment too has a high concentration of semiconductor industry customers.
- inTEST also serves industrial manufacturing companies such as Tesla and GE via its recently acquired Ambrell division. inTEST timed this acquisition extremely well with strong Ambrell orders driving 27% thermal segment organic revenue growth in 3Q. Thermal processes are a safer, more efficient means of joining parts rather than welding or glue, and Ambrell's induction heating is far safer than the open flames previously used in thermal, so we are optimistic on its growth prospects.
- inTEST has guided to a down fourth quarter after a period of strong order activity, and our model factors this in.
- Longer term, we look for modest 5% top line growth and continued robust 18% EBITDA margins.
- We value the stock at 1.1x our 2020 revenue estimate and 5.7x our 2020 EBITDA estimate, both of which are about half the level at which comps currently trade at to account for the fact that inTEST's small size and the relative illiquidity of the stock will likely continue to drive a discount.

# inTEST

**inTEST Corporation**  
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Rating	Buy	<b>Earnings Per Share Normalized to exclude unusual items</b>				
Target Price	\$10.00	<b>FYE - December</b>	<b>2017</b>	<b>2018E</b>	<b>2019E</b>	<b>2020E</b>
Ticker Symbol	INTT	1Q - March	\$0.20	\$0.04 A	\$0.22	\$0.24
Market	NYSE	2Q - June	\$0.14	\$0.39 A	\$0.25	\$0.27
Stock Price	\$5.70	3Q - September	\$0.20	(\$0.05) A	\$0.24	\$0.26
52 wk High	\$9.50	4Q - December	(\$0.44)	\$0.19	\$0.22	\$0.24
52 wk Low	\$5.45	<b>Year</b>	<b>\$0.09</b>	<b>\$0.56</b>	<b>\$0.93</b>	<b>\$1.01</b>
Shares Outstanding:	10.5 M	<b>Revenue (\$mm)</b>	<b>\$66.8</b>	<b>\$78.5</b>	<b>\$81.3</b>	<b>\$85.4</b>
Public Market Float:	9.1 M	EV/Rev	0.7X	0.6X	0.6X	0.5X
Avg. Daily Volume	31,809	<b>EBITDA (\$mm)</b>	<b>\$13.1</b>	<b>\$14.4</b>	<b>\$14.7</b>	<b>\$15.8</b>
Market Capitalization:	\$61 M	EV/EBITDA	3.5X	3.2X	3.1X	2.9X
Institutional Holdings:	53.0%					
Dividend Yield:	0.0%					

Senior Executives		Common Ownership Profile		
		Shareholder	Shares ('000)	% of Total
James Pelrin	Chief Executive Officer	Renaissance Technologies LLC	876.4	8.4%
Hugh Regan	Chief Financial Officer	Dimensional Fund Advisors LP	625.6	6.0%
		BlackRock Fund Advisors	553.4	5.3%
		Nokomis Capital LLC	440.8	4.2%
		Bridgeway Capital Management, Lr	390.1	3.7%
		Directors and Officers	403.3	3.8%

Capitalization			
<b>Market Value Basis ('000)</b>			
	<b>12/26/2018</b>	<b>%</b>	
Long-Term Debt	\$0	0.0%	
Market Value of Equity	60,631	130.6%	
Less: cash	-14,202	-30.6%	
Enterprise Value	\$46,429	100.0%	
<b>Book Value Basis ('000)</b>			
	<b>09/30/2018</b>	<b>%</b>	
Long-Term Debt	\$0	0.0%	
Other Liabilities	21,978	33.6%	
Book Value of Equity	43,503	66.4%	
Total Capital	\$65,481	100.0%	



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

## Equipment for Semiconductor and Industrial Manufacturing – Initiating Coverage at Buy

We initiate coverage of inTEST with a Buy rating and a \$10 price target. inTEST has two operating segments, EMS and Thermal. EMS makes electromechanical semiconductor (EMS) products and thermal makes products to either super heat or super chill products in either semiconductor or basic industrial applications. The company has been reporting strong growth driven by both acquisitions and organic demand. INTT shares trade at about a 75% discount to the valuation of comparables, with much of this discount due to its small size and the illiquidity of the shares. Even at a 50% discount, we get to a \$10 price target.

The company was founded in 1981 by Alyn Holt in his garage in Cherry Hill, NJ after a long career at Hughes Aircraft, Computest and Siemens after it acquired Computest in 1973. The company went public in 1997 at \$7.50 per share valuing the company at \$44.3 mm. Since then, it has completed six acquisitions totaling \$78.7 mm, so the recent microcap sell-off is allowing investors to invest at a lower value than 20 years ago, plus the value of acquisitions.

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### inTEST Has Been Highly Acquisitive in its 37-Year History

1981	inTEST Founded
1997	Initial public offering at \$7.50 per share valuing company at \$44.3 mm
1998	Acquired TestDesign – Electrical products for \$7.5 mm
2000	Acquired Temptronic – Thermal products for \$42.4 mm
2002	Acquired Intelogic – Mechanical products for \$585 k
2005	Diversification into non-Semi markets – Thermal products
2008	Acquired Sigma Systems – Thermal products for \$3.5 mm
2011	Formed inTEST Thermal Solutions Combined locations for Sigma Systems and Temptronic
2012	Acquired Thermonics – Thermal products for \$2.7 mm
2016	Formed inTEST EMS Products division: Combined electrical and mechanical products for semiconductor test
2017	Acquired Ambrell – Thermal products for \$22 mm

*Source: Company reports*

Throughout its history, inTEST has been acquisitive and management continues to look for acquisitions. At its founding, the company was solely a manufacturer of docking hardware and test head manipulators used in semiconductor automatic test equipment (ATE). In 1998, just a year after its IPO, it acquired TestDesign of Sunnyvale, CA for \$7.5 mm. This was a natural acquisition as both provided complementary semiconductor test equipment. It also gave New Jersey-based inTEST a Silicon Valley presence closer to

many semiconductor customers. The transaction was more of a merger of equals as the two companies merged their management teams and boards.

Two years later, in 2000, the company entered the thermal market acquiring Temptronic of Newton, MA for \$42.4 mm, which is still its largest acquisition to date. The transaction was done on a stock basis, which is fortunate as it was done just as tech stocks were entering their worst bear market in history. The merger was a good fit in terms of products as thermal testing was becoming standard in the semiconductor industry to ensure that products could endure high temperature extremes. In fact, the Temptronic products physically interacted with the inTEST manipulator and test heads on the fab floor.

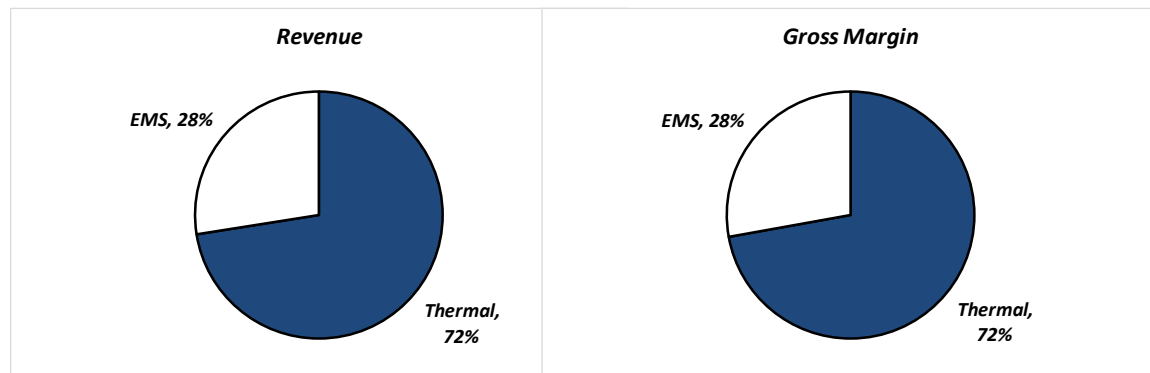
In October 2002 the company acquired Intelogic of Rosenheim, Germany for just \$585,000. Presumably the price would have been much higher before the tech bubble burst. The Intelogic product description sounds similar to that of inTEST: “docking systems, test head positioners and other mechanical and automated equipment for the semiconductor production industry.” The European foothold it gave inTEST was important since a number of major semiconductor companies such as Infineon are European-based.

With the tech sector in collapse, inTEST management wisely decided on diversification in 2008 acquiring Sigma Systems of El Cajon, CA for \$3.5 mm. In 2011 the company announced it was merging Sigma and Temptronic to form inTEST Thermal Solutions. The new subsidiary’s thermal products include thermal chambers and platforms, air and fluid chillers, semiconductor test tools and mobile temperature test systems.

The company continued to increase its exposure to thermal, acquiring Sunnyvale, CA-based Thermonics in January 2012 for \$2.7 mm. While Thermonics made thermal equipment, it was largely focused on the semiconductor sector. Again, we expect that inTEST was able to make an acquisition at an attractive price due to the global recession which began in 2008 and was ongoing at that time.

More recently, in 2017, the company made another thermal acquisition acquiring Ambrell of Scottsville, NY for \$22 mm plus up to another \$18 mm in earn outs, which look like they will be earned. Ambrell is headquartered in upstate N.Y. in the Rochester area. Under Governor Andrew Cuomo the state of New York is offering generous subsidies to manufacturing companies, partially offsetting the state’s onerous taxation system targeted at wealthy Manhattanites.

**Thermal is Much Larger than EMS, but Both Have Similar Margins**

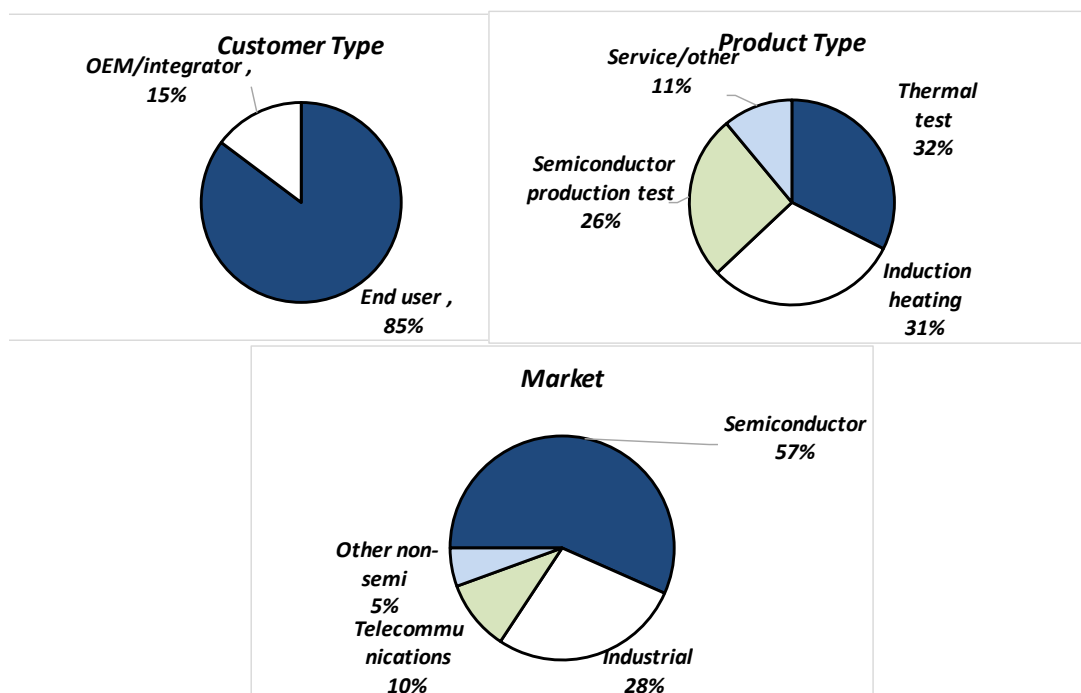


*Source: Company reports and Dawson James estimates*

inTEST operates in two key segments: EMS and Thermal. EMS stands for Electromechanical Semiconductor products and are machines used to move semiconductors for processing during manufacturing. The thermal segment also sells into semiconductor manufactures as well as industrial companies.

The thermal segment is now larger than the EMS segment, even though the company's roots are in EMS with a breakdown of about 72% of revenue from thermal and 28% for EMS in 3Q. Since both segments have nearly the same gross margin, the margin contribution is essentially the same. The thermal segment is growing much more quickly than the EMS segment with growth of 27.4% in 3Q versus a 5.7% decline for EMS. Through the second quarter, thermal segment growth was artificially accelerated by the May 2017 acquisition of Ambrell. Third quarter growth was all organic as inTEST appears to have timed the acquisition well.

**inTEST Breaks Out Revenue Three Different Ways**



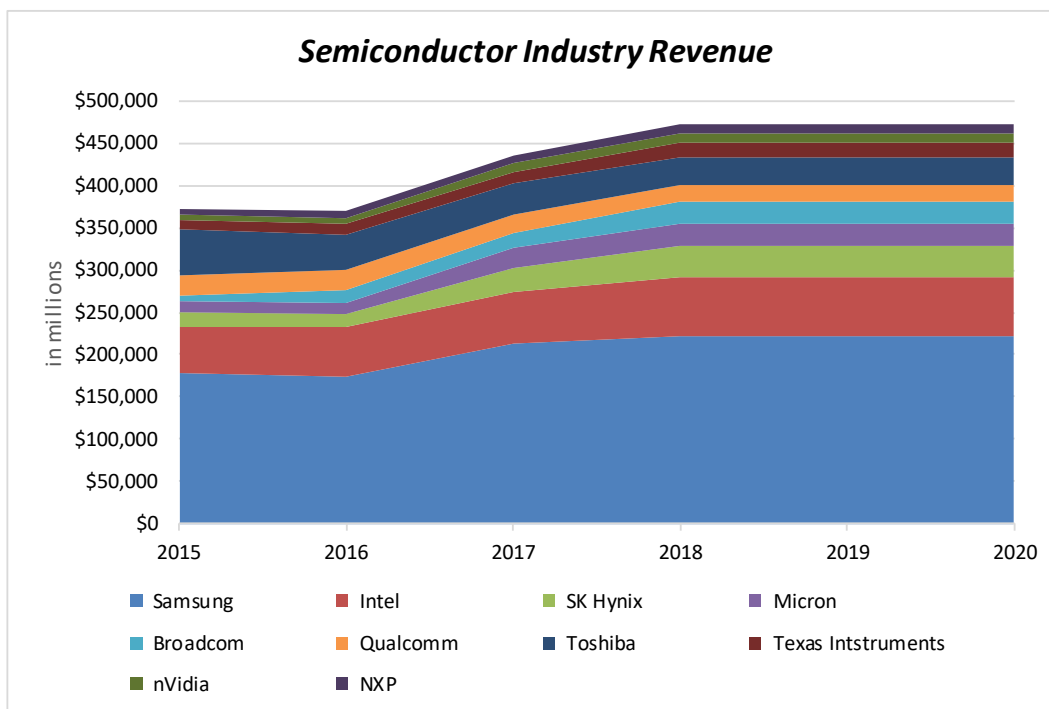
*Source: Company reports and Dawson James estimates*

The company also breaks out revenue via three other categories: customer type, product type and market. In terms of customer type, 85% of revenue was from end users in the third quarter. Its largest distributor is Tokyo-based Hakuto Co., Ltd. which distributes thermal products and was responsible for 11% of revenue last year. By product type, semiconductor test equipment was 26% of revenue and thermal test was 32%. Thermal test equipment is largely sold into the semiconductor industry. Induction heating, which is Ambrell equipment, was 31% of revenue. The third breakout is by customer category. Semiconductor manufacturers are by far the largest at 57% of revenue since they are the customers for the EMS segment as well as a large portion of thermal test equipment. Industrial customers such as Tesla, GE and GM make up 28% and again are largely from Ambrell.

Semiconductor products consist of manipulators, docking systems and test interfaces. Manipulators are large machines that move the test head to test semiconductors. Semiconductors are manufactured in large wafers of hundreds of semiconductors and tested as a wafer before it is broken apart or “diced” into individual semiconductors. Docking systems position ATE test heads to the wafer probers. Test interfaces provide an electromechanical connection between semiconductor test systems and wafer probes.

Given the importance of the semiconductor industry to the company, it is useful to examine the industry’s prospects. The semiconductor industry is extremely cyclical with large swings between peak and trough revenue. We are currently at the top of the cycle, although a slowing rather than a decline looks most likely. A recent article in Forbes posits three drivers of semiconductor industry cycles: capx cycles, migration glitches and demand slowdowns. Capx cycles come as multiple semiconductor manufacturers ramp up capital spending and invariably overspend leading to a glut of capacity. This glut leads to price cutting and a down cycle. Migration glitches are uncommon but do occur every decade or so. The semiconductor industry is constantly introducing radical changes in technology in an attempt to live up to Moore’s law which states that the number of transistors on a chip doubles every two years, while price halves. Gordon Moore co-founded Intel in 1968 and served as CEO from 1979 to 1987. Sometimes the industry’s innovations go too far, leading to quality issues until the bugs are worked out, and a down cycle. According to the Forbes article, demand cycles are even rarer, occurring every 15 years or so. The number of semiconductors used in everyday products is still increasing rapidly, and likely to continue increasing as the 5G/IoT revolution unfolds. For example, until the 1970s cars did not have any semiconductor content, while today a typical car contains over 100 semiconductors. As self-driving cars are introduced, semiconductor content in cars should increase further.

**After Two Strong Years, Semiconductor Industry Revenue Expected to Slow**



*Source: Company reports and Dawson James estimates*



The figure above combines the historic and forecast revenue for the ten largest semiconductor manufacturers globally. The forecast data comes from analyst estimates collated by FactSet. Growth was very strong in 2017 at 17% slowing to 8% in 2018 driving the strong results inTEST has reported. However, this data shows a collective 0% growth for 2019 and 2020, so the industry may be due for a slowdown. By far the largest contributor is Samsung which also makes consumer electronics such as televisions and phones, so this skews the data somewhat. However, all of Samsung’s products are heavily reliant on semiconductor content, so we view Samsung’s revenue forecast as relevant for semiconductor demand.

inTEST’s thermal products include the Temptronic and Sigma Systems equipment for electronics and materials testing. While most inTEST thermal equipment makes things hotter, its Thermonics products are chillers used to supercool products in the chemical, energy, defense, industrial and semiconductor industries to as low as negative 150 degrees Fahrenheit.

**Ambrell Equipment Is Used to Make a Wide Variety of Products**



*Source: Company reports and Dawson James*

Finally, Ambrell equipment is mainly sold to industrial customers such as GE, GM and Tesla. Tesla uses the equipment to bond axles to wheel hubs. By superheating the wheel hub with a round hole in it the hub expands. The round axle is then inserted. When the hub cools back to room temperature and contracts, a solid bond between the hub and axle is created able to withstand the 920 foot-pounds of torque in a Tesla Model S P100D in ludicrous mode.

**inTEST Products are Used in Semiconductor and Industrial Manufacturing**

**Semiconductor Test**

<https://intest-semicon.com/>

Test head manipulators and docking systems, and test interfaces

**Manipulators**  
\$12k to \$60k

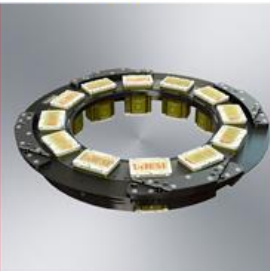


**inTEST EMS Products**  
a Division of inTEST Corp.

**Docking Systems**  
\$2k to \$25k



**Test Interfaces**  
\$7k to \$110k



**Thermal Test and Development**

<https://intestthermal.com/>

Thermal chambers, plates, temperature forcing systems, and process chillers

**Sigma Systems Thermal Chambers**  
\$15k to \$150k

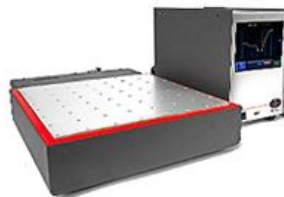


**Thermochuck**  
\$25k to \$120k



**TS**  
**inTEST Thermal Solutions**

**Sigma Systems Thermal Platforms**  
\$6.5k to \$65k



**Thermonics**  
\$20k to \$200k



**Industrial Process**

<https://www.ambrell.com/>

Induction heating systems for industrial manufacturing

**EasyHeat**  
\$5k to \$25k



**Ambrell**  
INDUCTION HEATING SOLUTIONS  
an inTEST Company

**EkoHeat**  
\$25k to \$250k



*Source: Company reports and Dawson James*



As noted, Ambrell operates in a spacious new 80,000 square foot factory in Rochester, New York. The city, state and local electric utility covered about half of the \$2.1 mm cost. We toured the facility and received demos of the products last summer. Ambrell uses induction technology to create heat with electrical current. This is far safer than competing methods which may employ open flames and, as a result, many factories are switching to this method. Ambrell products are used in the manufacture of everything from lightbulbs, to toothpaste tubes to large industrial equipment such as Caterpillar tractors.

## **We Forecast Modest Growth and Continued Robust Margins**

We forecast 5% growth for the thermal segment through 2020. As noted, growth has been well above this in recent quarters driven by the Ambrell acquisition but even in 3Q, revenue growth was 27% which was all organic. Thermal orders were \$14.9 mm in 3Q representing a positive 1.02 book to bill ratio. For the EMS segment, revenue has declined for two out of the three quarters reported in 2018 and the book to bill ratio is still below one at just 0.92 for the third quarter. Management has issued guidance for the fourth quarter for revenue of \$17.5 mm to \$18.5 mm, signaling a slowdown. We model a 5% year-over-year decline which gets us to \$18.4 mm in revenue.

Management also breaks out component materials cost for each segment in their earnings calls. Both segments are pretty similar with component materials cost making up 34.3% of thermal segment revenue in 3Q and 33.2% of EMS segment revenue. To get to cost of goods sold and the gross margin, the difference is the fixed cost of operating the factories which has been running at about \$3 mm per quarter or 16% of revenue. Altogether, inTEST has been running a gross margin of just over 50%. We model 50% for 2019 and 2020.

With selling expense running about 12% of revenue, engineering expense 6% of revenue and G&A at 16%, the company runs an EBITDA margin of around 18% after backing out non-cash depreciation and amortization costs from the above items.

## **Even at Half the Valuation Level of Comps, INTT Shares Could Double**

There is a wealth of comparables in the semiconductor equipment industry, but not so much in thermal so our comps are mainly semiconductor equipment companies. One challenge in valuing INTT shares, as is always the case with microcaps, is that its small size and the illiquidity of the shares results in a valuation discount. But in this case, we think the valuation discount is too high, likely exacerbated by the current microcap sector sell-off. INTT shares presently traded at 0.5x our 2018 revenue estimate and 3.0x our 2018 EBITDA estimate. Comps trade at 2.4x revenue and 12.6x EBITDA. Our \$10 price target values INTT shares in the middle at 1.1x revenue and 5.7x EBITDA.

## Our \$10 Target Works Out to 1.1x our 2020 Revenue Estimate at 5.7x EBITDA

Company Name	Fiscal Period	Price	Shares Outstanding	Market Value	Enterprise Value	Sales	EBIT	EBITDA	Enterprise Value/Sales	Enterprise Value/EBIT	Enterprise Value/EBITDA
inTEST	09/30/2018	\$5.70	10.5	57.6	43.4	80.6	12.5	14.6	0.5x	3.4x	3.0
INTT @ 2020E	12/31/20	\$5.70	10.5	57.6	43.4	85.4	13.7	15.8	0.5x	3.2x	2.7
INTT @ target on 2020E	12/31/20	\$10.00	10.5	104.9	90.7	85.4	13.7	15.8	1.1x	6.6x	5.7
Axcelis Technologies, Inc.	09/30/2018	\$16.63	32.4	539.0	438.0	410.6	47.8	52.8	1.1x	9.2x	8.3
ACM Research, Inc. Class A	09/30/2018	\$10.42	14.1	146.8	138.7	36.5	0.7	1.0	3.8x	-	-
Aehr Test Systems	08/31/2018	\$1.48	22.3	32.9	23.2	29.6	0.9	1.3	0.8x	25.3x	17.4
Amtech Systems, Inc.	09/30/2018	\$4.39	14.2	62.4	8.3	176.4	8.4	10.2	-	1.0x	0.8
Atomera Incorporated	09/30/2018	\$2.61	15.0	39.2	29.3	0.1	(13.2)	(13.2)	-	-	-
Brooks Automation, Inc.	09/30/2018	\$25.22	72.0	1,814.7	1,766.8	631.6	34.4	71.1	2.8x	51.3x	24.8
Cabot Microelectronics Corporation	09/30/2018	\$89.07	28.7	2,556.9	2,204.0	590.1	164.0	188.7	3.7x	13.4x	11.7
Cohu, Inc.	09/29/2018	\$15.46	40.7	629.2	465.9	352.7	39.1	48.3	1.3x	11.9x	9.6
CyberOptics Corporation	09/30/2018	\$17.14	7.1	121.3	107.3	53.3	1.0	3.3	2.0x	-	32.5
FormFactor, Inc.	09/29/2018	\$13.39	74.1	992.2	922.3	548.4	47.1	91.7	1.7x	19.6x	10.1
Ichor Holdings, Ltd.	09/28/2018	\$15.61	22.9	356.7	514.5	655.9	49.6	62.1	0.8x	10.4x	8.3
nLIGHT, Inc.	09/30/2018	\$17.57	36.6	642.6	490.6	138.6	9.8	17.7	3.5x	50.1x	27.7
Nanometrics Incorporated	09/29/2018	\$26.93	24.2	652.1	479.2	258.6	42.8	49.7	1.9x	11.2x	9.6
PDF Solutions, Inc.	09/30/2018	\$8.39	32.3	270.8	174.0	101.9	0.2	5.8	1.7x	-	29.8
Photonics, Inc.	10/31/2018	\$9.54	67.0	639.1	512.1	535.3	65.7	150.0	1.0x	7.8x	3.4
Trio-Tech International	09/30/2018	\$2.74	3.6	9.9	9.1	42.4	2.1	4.3	0.2x	4.3x	2.1
Ultra Clean Holdings, Inc.	09/28/2018	\$7.75	39.0	302.4	527.8	924.4	89.7	100.4	0.6x	5.9x	5.3
Veeco Instruments Inc.	09/30/2018	\$7.13	47.8	340.8	358.7	484.8	(33.4)	16.7	0.7x	-	21.5
<b>Average</b>									<b>2.4x</b>	<b>20.0x</b>	<b>12.6</b>
<b>INTT discount</b>									<b>79%</b>	<b>84%</b>	<b>78%</b>
<b>INTT discount @ target on 2020E</b>									<b>56%</b>	<b>67%</b>	<b>54%</b>

Source: Company reports and Dawson James estimates

## inTEST Corporation Revenue Forecast

Dollars in thousands, except per share data															
Fiscal years ended March 31															
	2018E					2019E					2020E				
	1QA	2QA	3QA	4Q	YEAR	1Q	2Q	3Q	4Q	YEAR	1Q	2Q	3Q	4Q	YEAR
<b>Thermal</b>															
Revenue	13,234	13,999	14,616	13,103	54,952	13,896	14,699	15,347	13,759	57,700	14,590	15,434	16,114	14,446	60,585
YoY Growth	70.2%	52.3%	27.4%	-5.0%	30.1%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
Sequential growth															
As a pct. of revenue	70.1%	66.4%	72.5%	71.2%	70.0%	71.1%	67.4%	73.5%	72.2%	71.0%	71.1%	67.4%	73.5%	72.2%	71.0%
Component materials cost	4,433	4,690	5,013	4,455	18,591	4,725	4,998	5,218	4,678	19,618	4,961	5,248	5,479	4,912	20,599
As a percent of revenue	33.5%	33.5%	34.3%	34.0%	33.8%	34.0%	34.0%	34.0%	34.0%	34.0%	34.0%	34.0%	34.0%	34.0%	34.0%
<b>EMS</b>															
Revenue	5,637	7,098	5,544	5,309	23,588	5,637	7,098	5,544	5,309	23,588	5,919	7,453	5,821	5,574	24,767
YoY Growth	-12.0%	6.0%	-5.7%	-5.0%	-4.0%	0.0%	0.0%	0.0%	0.0%	0.0%	5.0%	5.0%	5.0%	5.0%	5.0%
Sequential growth															
As a pct. of revenue	29.9%	33.6%	27.5%	28.8%	30.0%	28.9%	32.6%	26.5%	27.8%	29.0%	28.9%	32.6%	26.5%	27.8%	29.0%
Component materials cost	1,888	2,406	1,841	1,778	7,914	1,888	2,378	1,857	1,778	7,902	1,983	2,497	1,950	1,867	8,297
As a percent of revenue	33.5%	33.9%	33.2%	33.5%	33.5%	33.5%	33.5%	33.5%	33.5%	33.5%	33.5%	33.5%	33.5%	33.5%	33.5%
<b>Total Revenue</b>															
YoY Growth	33.1%	32.8%	16.2%	-5.0%	17.6%	3.5%	3.3%	3.6%	3.6%	3.5%	5.0%	5.0%	5.0%	5.0%	5.0%
Sequential growth															
Component materials cost	6,322	7,096	6,854	6,234	26,505	6,613	7,375	7,075	6,456	27,520	6,944	7,744	7,429	6,779	28,896
As a percent of revenue	33.5%	33.6%	34.0%	33.9%	33.7%	33.9%	33.8%	33.9%	33.9%	33.9%	33.9%	33.8%	33.9%	33.9%	33.9%
Fixed manufacturing costs	3,154	3,091	3,214	2,972	12,432	3,153	3,523	3,370	3,077	13,124	3,311	3,699	3,539	3,231	13,780
As a percent of revenue	16.7%	14.7%	15.9%	16.1%	15.8%	16.1%	16.2%	16.1%	16.1%	16.1%	16.1%	16.2%	16.1%	16.1%	16.1%
Cost of goods sold	9,476	10,187	10,068	9,206	38,937	9,766	10,898	10,445	9,534	40,644	10,255	11,443	10,968	10,010	42,676
<b>Orders</b>															
<b>Thermal</b>															
Book-to-bill	1.10	0.95	1.02												
Vs. next quarter actual	1.04	0.91	1.14												
<b>EMS</b>															
Book-to-bill	1.08	0.84	0.92												
Vs. next quarter actual	0.86	1.08	0.96												
<b>Total orders</b>															
Book-to-bill	1.09	0.91	0.99												
Vs. next quarter actual	0.98	0.91	1.09												
Backlog	15,400	13,600	13,400	-											
As a percent of orders	0.75	0.71	0.67												

Source: Company reports and Dawson James estimates

## inTEST Corporation Income 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>Revenue</b>	<b>18,871</b>	<b>21,097</b>	<b>20,160</b>	<b>18,412</b>	<b>78,540</b>	<b>19,533</b>	<b>21,797</b>	<b>20,891</b>	<b>19,067</b>	<b>81,288</b>	<b>20,509</b>	<b>22,887</b>	<b>21,935</b>	<b>20,020</b>	<b>85,352</b>
YoY growth	33.1%	32.8%	16.2%	-5.0%	17.6%	3.5%	3.3%	3.6%	3.6%	3.5%	5.0%	5.0%	5.0%	5.0%	5.0%
Seq growth	-2.6%	11.8%	-4.4%	-8.7%	426.6%	6.1%	11.6%	-4.2%	-8.7%	426.3%	7.6%	11.6%	-4.2%	-8.7%	426.3%
<b>Cost of revenue</b>	<b>9,476</b>	<b>10,187</b>	<b>10,068</b>	<b>9,206</b>	<b>38,937</b>	<b>9,766</b>	<b>10,898</b>	<b>10,445</b>	<b>9,534</b>	<b>40,644</b>	<b>10,255</b>	<b>11,443</b>	<b>10,968</b>	<b>10,010</b>	<b>42,676</b>
As a percent of revenue	50.2%	48.3%	49.9%	50.0%	49.6%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%
<b>Gross margin</b>	<b>9,395</b>	<b>10,910</b>	<b>10,092</b>	<b>9,206</b>	<b>39,603</b>	<b>9,766</b>	<b>10,898</b>	<b>10,445</b>	<b>9,534</b>	<b>40,644</b>	<b>10,255</b>	<b>11,443</b>	<b>10,968</b>	<b>10,010</b>	<b>42,676</b>
As a percent of revenue	49.8%	51.7%	50.1%	50.0%	50.4%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%
<b>Selling expense</b>	<b>2,476</b>	<b>2,538</b>	<b>2,291</b>	<b>2,209</b>	<b>9,514</b>	<b>2,344</b>	<b>2,616</b>	<b>2,507</b>	<b>2,288</b>	<b>9,755</b>	<b>2,461</b>	<b>2,746</b>	<b>2,632</b>	<b>2,402</b>	<b>10,242</b>
As a percent of revenue	13.1%	12.0%	11.4%	12.0%	12.1%	12.0%	12.0%	12.0%	12.0%	12.0%	12.0%	12.0%	12.0%	12.0%	12.0%
<b>Engineering expense</b>	<b>1,296</b>	<b>1,230</b>	<b>1,207</b>	<b>1,105</b>	<b>4,838</b>	<b>1,172</b>	<b>1,308</b>	<b>1,253</b>	<b>1,144</b>	<b>4,877</b>	<b>1,231</b>	<b>1,373</b>	<b>1,316</b>	<b>1,201</b>	<b>5,121</b>
As a percent of revenue	6.9%	5.8%	6.0%	6.0%	6.2%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%
<b>General and administrative expense</b>	<b>2,990</b>	<b>3,335</b>	<b>3,318</b>	<b>3,038</b>	<b>12,681</b>	<b>3,223</b>	<b>3,596</b>	<b>3,447</b>	<b>3,146</b>	<b>13,412</b>	<b>3,281</b>	<b>3,662</b>	<b>3,510</b>	<b>3,203</b>	<b>13,656</b>
As a percent of revenue	15.8%	15.8%	16.5%	16.5%	16.1%	16.5%	16.5%	16.5%	16.5%	16.5%	16.0%	16.0%	16.0%	16.0%	16.0%
<b>Adjustment to contingent liability</b>	<b>1,726</b>	<b>(710)</b>	<b>3,057</b>	-	<b>4,073</b>	-	-	-	-	-	-	-	-	-	-
<b>Operating income</b>	<b>907</b>	<b>4,517</b>	<b>219</b>	<b>2,854</b>	<b>8,497</b>	<b>3,028</b>	<b>3,379</b>	<b>3,238</b>	<b>2,955</b>	<b>12,600</b>	<b>3,281</b>	<b>3,662</b>	<b>3,510</b>	<b>3,203</b>	<b>13,656</b>
Operating margin	4.8%	21.4%	1.1%	15.5%	10.8%	15.5%	15.5%	15.5%	15.5%	15.5%	16.0%	16.0%	16.0%	16.0%	16.0%
<b>Other</b>	<b>75</b>	<b>(121)</b>	<b>(57)</b>	-	<b>(103)</b>	-	-	-	-	-	-	-	-	-	-
<b>Pretax Income</b>	<b>982</b>	<b>4,396</b>	<b>162</b>	<b>2,854</b>	<b>8,394</b>	<b>3,028</b>	<b>3,379</b>	<b>3,238</b>	<b>2,955</b>	<b>12,600</b>	<b>3,281</b>	<b>3,662</b>	<b>3,510</b>	<b>3,203</b>	<b>13,656</b>
<b>Taxes</b>	<b>601</b>	<b>382</b>	<b>728</b>	<b>656</b>	<b>2,367</b>	<b>696</b>	<b>777</b>	<b>745</b>	<b>680</b>	<b>2,898</b>	<b>755</b>	<b>842</b>	<b>807</b>	<b>737</b>	<b>3,141</b>
Tax rate	61.2%	8.7%	449.4%	23.0%	28.2%	23.0%	23.0%	23.0%	23.0%	23.0%	23.0%	23.0%	23.0%	23.0%	23.0%
<b>Net income to common</b>	<b>381</b>	<b>4,014</b>	<b>(566)</b>	<b>2,197</b>	<b>6,026</b>	<b>2,331</b>	<b>2,601</b>	<b>2,493</b>	<b>2,276</b>	<b>9,702</b>	<b>2,527</b>	<b>2,820</b>	<b>2,702</b>	<b>2,467</b>	<b>10,515</b>
Net income margin	2.0%	19.0%	-2.8%	11.9%	7.7%	11.9%	11.9%	11.9%	11.9%	11.9%	12.3%	12.3%	12.3%	12.3%	12.3%
<b>Diluted shares outstanding</b>	<b>10,326</b>	<b>10,343</b>	<b>10,356</b>	<b>10,366</b>	<b>10,348</b>	<b>10,376</b>	<b>10,386</b>	<b>10,396</b>	<b>10,406</b>	<b>10,391</b>	<b>10,416</b>	<b>10,426</b>	<b>10,436</b>	<b>10,446</b>	<b>10,431</b>
Seq change	18.3	16.4	13.0	10.0	-	10.0	10.0	10.0	10.0	-	10.0	10.0	10.0	10.0	-
<b>EPS diluted - continuing</b>	<b>\$0.04</b>	<b>\$0.39</b>	<b>(\$0.05)</b>	<b>\$0.21</b>	<b>\$0.58</b>	<b>\$0.22</b>	<b>\$0.25</b>	<b>\$0.24</b>	<b>\$0.22</b>	<b>\$0.93</b>	<b>\$0.24</b>	<b>\$0.27</b>	<b>\$0.26</b>	<b>\$0.24</b>	<b>\$1.01</b>
<b>EBITDA</b>															
<b>Net income</b>	<b>381</b>	<b>4,014</b>	<b>(566)</b>	<b>2,197</b>	<b>6,026</b>	<b>2,331</b>	<b>2,601</b>	<b>2,493</b>	<b>2,276</b>	<b>9,702</b>	<b>2,527</b>	<b>2,820</b>	<b>2,702</b>	<b>2,467</b>	<b>10,515</b>
Acquired intangible	216	247	323	325	1,111	325	325	325	325	1,300	325	325	325	325	1,300
Interest expense	-	-	1	-	1	-	-	-	-	-	-	-	-	-	-
Income tax expense	601	382	728	656	2,367	696	777	745	680	2,898	755	842	807	737	3,141
Depreciation	189	188	207	210	794	210	210	210	210	840	210	210	210	210	840
Adjustment to contingent liability	1,726	(710)	3,057	-	4,073	-	-	-	-	-	-	-	-	-	-
<b>Adjusted EBITDA</b>	<b>3,113</b>	<b>4,121</b>	<b>3,750</b>	<b>3,389</b>	<b>14,373</b>	<b>3,563</b>	<b>3,914</b>	<b>3,773</b>	<b>3,490</b>	<b>14,740</b>	<b>3,816</b>	<b>4,197</b>	<b>4,045</b>	<b>3,738</b>	<b>15,796</b>
YoY growth	-7.8%	39.3%	21.6%	-8.9%	9.4%	14.4%	-5.0%	0.6%	3.0%	2.6%	7.1%	7.2%	7.2%	7.1%	7.2%
EBITDA margin	16.5%	19.5%	18.6%	18.4%	18.3%	18.2%	18.0%	18.1%	18.3%	18.1%	18.6%	18.3%	18.4%	18.7%	18.5%
<b>Adjusted Net Income</b>															
<b>Net income</b>	<b>381</b>	<b>4,014</b>	<b>(566)</b>	<b>2,197</b>	<b>6,026</b>	<b>2,331</b>	<b>2,601</b>	<b>2,493</b>	<b>2,276</b>	<b>9,702</b>	<b>2,527</b>	<b>2,820</b>	<b>2,702</b>	<b>2,467</b>	<b>10,515</b>
Acquired intangible	216	247	323	325	1,111	325	325	325	325	1,300	325	325	325	325	1,300
Adjustment to contingent liability	1,726	(710)	3,057	-	4,073	-	-	-	-	-	-	-	-	-	-
Tax adjustments	(11)	(2)	(5)	(18)	-	-	-	-	-	-	-	-	-	-	-
<b>Adjusted Net Income</b>	<b>2,312</b>	<b>3,549</b>	<b>2,809</b>	<b>2,522</b>	<b>11,192</b>	<b>2,656</b>	<b>2,926</b>	<b>2,818</b>	<b>2,601</b>	<b>11,002</b>	<b>2,852</b>	<b>3,145</b>	<b>3,027</b>	<b>2,792</b>	<b>11,815</b>
YoY growth	8.8%	110.1%	35.3%	-21.3%	23.1%	14.9%	-17.5%	0.3%	3.1%	-1.7%	7.4%	7.5%	7.4%	7.3%	7.4%
<b>Adjusted EPS</b>	<b>\$0.22</b>	<b>\$0.34</b>	<b>\$0.27</b>	<b>\$0.24</b>	<b>\$1.08</b>	<b>\$0.26</b>	<b>\$0.28</b>	<b>\$0.27</b>	<b>\$0.25</b>	<b>\$1.06</b>	<b>\$0.27</b>	<b>\$0.30</b>	<b>\$0.29</b>	<b>\$0.27</b>	<b>\$1.13</b>

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 28, 2018 – Price Target \$10.00

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## VALUATION

Our \$10.00 price target values the stock at 1.1x our 2020 revenue estimate and 5.7x our 2020 EBITDA estimate, both of which are about half the current valuation level of comparables.

## RISK FACTORS

1. inTEST sells into the highly cyclical semiconductor and industrial manufacturing sectors. As a result, we would expect financial performance to suffer in the event of a down semiconductor cycle or recession.
2. The company's customers are far larger than it is and so may have pricing power. To date, the company's strategy of targeting market niches has protected it, but this may change in the future.
3. INTT 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)	44	90%	10	23%
Market Perform (Neutral)	5	10%	0	0%
Market Underperform (Sell)	0	0%	0	0%
<b>Total</b>	<b>49</b>	<b>100%</b>	<b>10</b>	<b>20%</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.