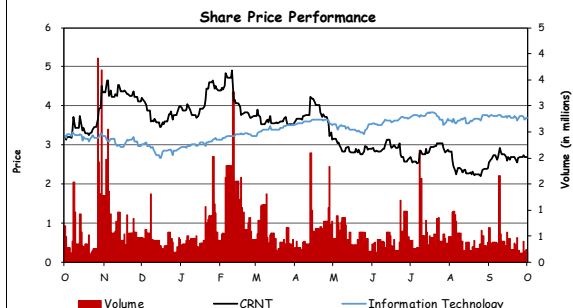


Ceragon Networks Ltd.	Symbol: CRNT
Analyst	Ryan Dudzic
Buy below	\$2.75
Sell above	\$3.84
Probability of Price Increase	99%
Last Price	\$2.70
Intrinsic Value	\$3.07
Target Dividends	\$0.00
Target Price	\$3.44



**Description**

Ceragon Networks Ltd. provides wireless backhaul solutions that enable cellular operators and other wireless service providers to deliver voice and data services worldwide.

Sector	Information Technology
Industry	Communications Equipment
Last Guidance	December 11, 2018
Next earnings date	November 4, 2019

**People**

Palti, Ira, President, CEO & Director  
 Meyo, Charles, Regional President of North America  
 Ancikovskiy, Amit, Regional President of Latin America & Africa  
 Arazi, Doron, Deputy Chief Executive Officer  
 Perrucchetti, Flavio, Regional President of Europe  
 Vered, Ran, Chief Financial Officer

**Top Competitors**

Netas Telekomünikasyon A.S.	--
Nokia Corporation	--
Radware Ltd.	Comtech Telecommunications Corp.
Aviat Networks, Inc.	--
--	--

**Market Statistics**

Market Capitalization (mil)	\$216.62
Last Price per share	\$2.70
52 week high	\$5.04
52-week low	\$2.20
Volatility	59.72%
Daily volume (mil)	0.18
Short interest	5.34%
Days to cover short interest	8.62
Beta	2.16

**Financials**

Profitability	CRNT (LTM)	CRNT Historical	Peers' Median (LTM)
Return on Capital	3.3%		
Adjusted EBITDA Margin	9.6%	6.17%	36.99%
Return on Equity	3.2%		
Adjusted Net margin	4.1%		
Invested Funds	CRNT (LTM)	CRNT Historical	Peers' Median (LTM)
Cash/Capital			
NWC/Capital			
Operating Assets/Capital			
Goodwill/Capital			
Capital Structure	CRNT (LTM)	CRNT Historical	Peers' Median (LTM)
Total Debt/(Market Cap.+ Other Claims on Capital)			
Minority Interest/(Market Cap.+ Other Claims on Capital)			
Preferred Equity/(Market Cap.+ Other Claims on Capital)			
CGFS Credit Rating			CCC
Credit Rating Model	b+ to bb-		b+ to bb-
Probability of Default Model	b- to b		bbb-
Likely Current Cost of Debt	18.72%		4.67%
Likely Current Cost of Equity (Cost of Debt + MRP)			10.98%
Likely Current WACC	#VALUE!		#VALUE!

**Investment Thesis**

**UNIQUE LONG-TERM GROWTH PROSPECTS AND MARGIN EXPANSION**

I am initiating coverage of Ceragon Networks Ltd. with a market BUY and a \$3.53 price target. I view CRNT as an opportunity to gain exposure in the telecommunications sector, specifically 5G, as deployments of 5G services begin to initiate in the next several years. Ceragon is the #1 wireless backhaul specialist, delivering solutions to more than 460 service providers, as well as hundreds of private network owners in more than 130 countries. While Ceragon Networks prepares for the rollouts of 5G telecommunications, their 4G LTE build-outs will provide near-time support. The market was hoping for revenue growth visibility, but the company's guidance disappointed. Revenue growth however will be seen in the near future, and with the current valuation being at a discount, the time to buy is now.

**For the long:**

**1. Increasing opportunities in 5G networks:**

By 2035, 5G networks are estimated to enable about \$12.3 trillion worth of goods and services, and the rollout of 5G will add approximately \$3 trillion to worldwide GDP. Ceragon is positioned well to capitalize on network evolution from 4G to 5G to generate long-term profitable growth. With the new collaboration agreement with NEC Corporation, Ceragon Networks is poised to further expand their global wireless backhaul business footprint. NEC and Ceragon plan to further develop and provide more attractive technologies for communications service providers. This collaboration affirms Ceragon's commitment to continue aggressively developing next generation technologies.

**3. Strong fundamentals:**

With no long-term debt and cash reserves around \$29 million, representing 13% of Ceragon's market capitalization, the company has plenty of room to further enhance their 5G operations. Also, Ceragon has an EBITDA margin of 9.5% compared to one of their top competitors, Aviat Networks, who has an EBITDA margin of 0.9%. With a gross profit margin of 35.2%, Ceragon has little default risk with tremendous near future potential.

**For the short:**

**1. Uncertainties of 5G timing:**

The market is carefully waiting for profits to begin when it comes to 5G networks. With these network rollouts being constantly pushed back, investors are becoming uncertain of the abilities of the telecommunications industry to begin collecting revenues in the near future.

**2. Large 5G competitors:**

With competitors like Airspan Networks and Casa Systems raising funding of \$220.8 million and \$99.6 million respectively, Ceragon must be sure not too fall behind in the research and development of 5G technologies.

**Key Catalysts for price change**

- Rollout of 5G networks to begin wireless backhaul solutions.
- Recent collaboration with NEC corporation to further advancements in technology.

**Valuation**

My \$3.53 price target is derived from Discounted Unlevered Free Cash Flow estimates.

**Ownership** Change in Ownership (over the past "Number" months)

Shares outstanding (mil)	80.23	
Weighted Diluted shares outstanding (mil)	81.89	
Options and Warrants (Shares equivalent)	1.89	
% shares held by institutions	16%	"INPUT from BB"
% shares held by investments Managers	10%	"INPUT from BB"
% shares held by hedge funds	8.00%	"INPUT from BB"
% shares held by VC/PE firms	0.013%	"INPUT from BB"
% shares held by insiders	31.25%	0.00%
Poison Pill and Type	NONE	

**Quarterly Earning Surprises (Actual/Median Estimates)**

Revenue	Last 5 quarters
6/30/2018	\$353.312 (1.8%)
9/30/2018	\$346.116 (5.1%)
12/31/2018	\$342.968 (2.1%)
3/31/2019	\$276.652 (-10.2%)
6/30/2019	\$292.004 (0.9%)
History:	Last 10 years
Mean Surprise	0.33%
99th percentile "surprise" range	-10% to 11%
EBITDA	Last 5 quarters
6/30/2018	#DIV/0!
9/30/2018	#DIV/0!
12/31/2018	#DIV/0!
3/31/2019	#DIV/0!
6/30/2019	#DIV/0!
History:	Last 10 years
Mean Surprise	-85.78%
99th percentile "surprise" range	-674% to 502%

<b>Ceragon Networks Ltd.</b>	Symbol: CRNT	<b>Cost of Capital Estimates</b>			
Analyst	Ryan Dudzic	<b>CGFS Credit Rating</b>	<b>Credit Rating Model</b>	<b>Probability of Default ModelModel</b>	
Buy below	\$2.75	Implied Cost of Borrowing (CRNT)	7.5%	5.6%	6.3%
Sell above	\$3.84	Implied Cost of Borrowing (Peers)	5.1%	5.6%	4.9%
Probability of Price Increase	99%	<b>Base Year</b>	<b>Explicit Period (15 years)</b>		<b>Continuing Period</b>
Last Price	\$2.70	Cost of New Debt Estimate	5.35%	5.35%	5.35%
Intrinsic Value	\$3.07	Country Risk Premium Estimate	6.31%	6.31%	6.31%
Target Dividends	\$0.00	Cost of Equity Estimate	11.66%	11.66%	11.66%
Target Price	\$3.44	WACC Estimate	11.08%	11.08%	11.08%

Forecast Assumptions						
Fiscal Year	Revenue Growth	EBITDA Margin	CAPEX/Revenue	DPR/CAPEX	Other	
Base Year (Actual)	6.73%	9.6%	3.0%	0.75	SBC/Revenue	0.67%
year 1	7.00%	9.5%	2.8%	0.77	Constant/same as LTM	
year 2	8.40%	9.5%	2.7%	0.78	Lease term	10
year 3	7.98%	9.4%	2.5%	0.80	Rent Expense/Revenue	1.90%
year 4	7.56%	9.4%	2.4%	0.81	Tappers off to historical average	
year 5	7.14%	9.4%	2.2%	0.83	R&D life	10
year 6	6.72%	9.3%	2.1%	0.85	R&D Expense/Revenue	8.43%
year 7	6.30%	9.3%	1.9%	0.86	Constant/same as LTM	
year 8	5.88%	9.2%	1.7%	0.88	LIFO Reserve	Tappers off to zero
year 9	5.46%	9.2%	1.6%	0.89	Non-operating pension costs	Tappers off to zero
year 10	5.04%	9.1%	1.4%	0.91	Net financing pensions costs	Tappers off to zero
year 11	4.62%	9.1%	1.3%	0.92	Overfunded pension plans	Tappers off to zero
year 12	4.20%	9.0%	1.1%	0.94	Capitalized interests	Constant/same as LTM
year 13	3.78%	9.0%	1.0%	0.95	Dividends/Revenue	0.00%
year 14	3.36%	8.9%	0.8%	0.97	Tax Rate	17.45%
year 15	2.94%	8.8%	0.7%	0.98		
Continuing Period	2.52%	8.8%	1%	1.00		

Simulation Assumptions						
Random Variables	Distribution Assumption	MAX	Likely	MIN	Sensitivity: Price Variance Attribution Analysis	
Deviations in annual Revenue Growth--Expl. Per.	Triangular	9.00%	0%	-5.62%	5.51%	Revenue growth
Deviations in annual Revenue Growth--Cont. Per.	Normal	1.52%	0%	-1.52%	9.40%	EBITDA Margin
Deviations from EBITDA Margin base annual estimates	Triangular	6.06%	0%	-5.19%	73.99%	CAPEX/Rev
Deviations from CAPEX/Revenue base annual estimates	Triangular	2.34%	0%	1.14%	5.75%	Discount Rate
Deviations from Kd base annual estimates	Triangular	13.37%	0%	-2.08%	0.36%	TEV/Rev
Deviations from CRP base annual estimates	Triangular	1.82%	0%	-1.92%	0.07%	TEV/EBITDA
Deviations from TEV/Revenue base estimate	Triangular	2.16	0%	-0.13	0.00%	P/BV
Deviations from TEV/Revenue base estimate	Triangular	11.78	0%	-1.03	0.00%	P/E
Change in P/BV (TTM)	Triangular	1.47	0%	-0.71	0.00%	Asset Recovery Rate
Change in P/E (FW)	Triangular	8.97	0%	-6.98		
Recovery Rate	Triangular	10.00%	0%	-10%		

Valuation				Intrinsic Value Distribution--Probability (Upside)=99%
DCF Valuation				
	Base	Explicit Period (Average)	Continuing Period	
Revenues	\$314.44	\$526.07	\$745.29	
EBITDA Margin	10%	9%	9%	
UFCF	\$3.73	\$23.51	\$54.31	
WACC	11.08%	11.08%	11.08%	
ROIC	3.28%	7.18%	8.13%	
Relative Valuation	Median Justified Multiple	Basis	Implied Equity Value	
EV/Rev (FW)	1.2x	\$345.27	\$386.32	
EV/EBITDA (FW)	8.7x	\$32.87	\$253.09	
P/BV (TTM)	1.4x	\$442.17	\$616.03	
P/E (FW)	21.3x	\$15.92	\$338.81	

Asset Based Valuation		Valuation Summary			
		Intrinsic Value	Target Price	Model Weight	
Recovery Rate	60%	DCF Valuation	\$ 2.83	\$ 3.14	50%
Capital	\$555.07	EV/Rev (FW)	\$ 4.61	\$ 5.12	25%
Intangibles	\$7.67	EV/EBITDA (FW)	\$ 3.02	\$ 3.36	25%
Claims	\$55.46	P/BV (TTM)	\$ 7.35	\$ 8.17	0%
Implied Equity Value	\$272.98	P/E (FW)	\$ 4.04	\$ 4.49	0%
		Asset Based Valuation	\$ 3.26	\$ 3.62	0%
		Price per Share	\$ 3.32	\$ 3.69	100%