

CUBEWEALTH

3D SYSTEMS CORP. EQUITY REPORT

APRIL 6TH, 2020

3D SYSTEMS CORP.

BY THE NUMBERS

TICKER: DDD

PRICE: \$6.01



3D SYSTEMS®

3D Systems Corporation provides 3D printing and digital manufacturing solutions worldwide. The company offers 3D printers, such as stereolithography, selective laser sintering, direct metal printing, multi jet printing, and color jet printers that transform digital data input generated by 3D design software, computer aided design (CAD) software, or other 3D design tools into printed parts under the Accura, DuraForm, LaserForm, CastForm, and Visijet brand names.

The company was founded in 1986 and is headquartered in Rock Hill, South Carolina.

N/A

DIVIDEND YIELD

-31.3%

YTD RETURN

\$680M

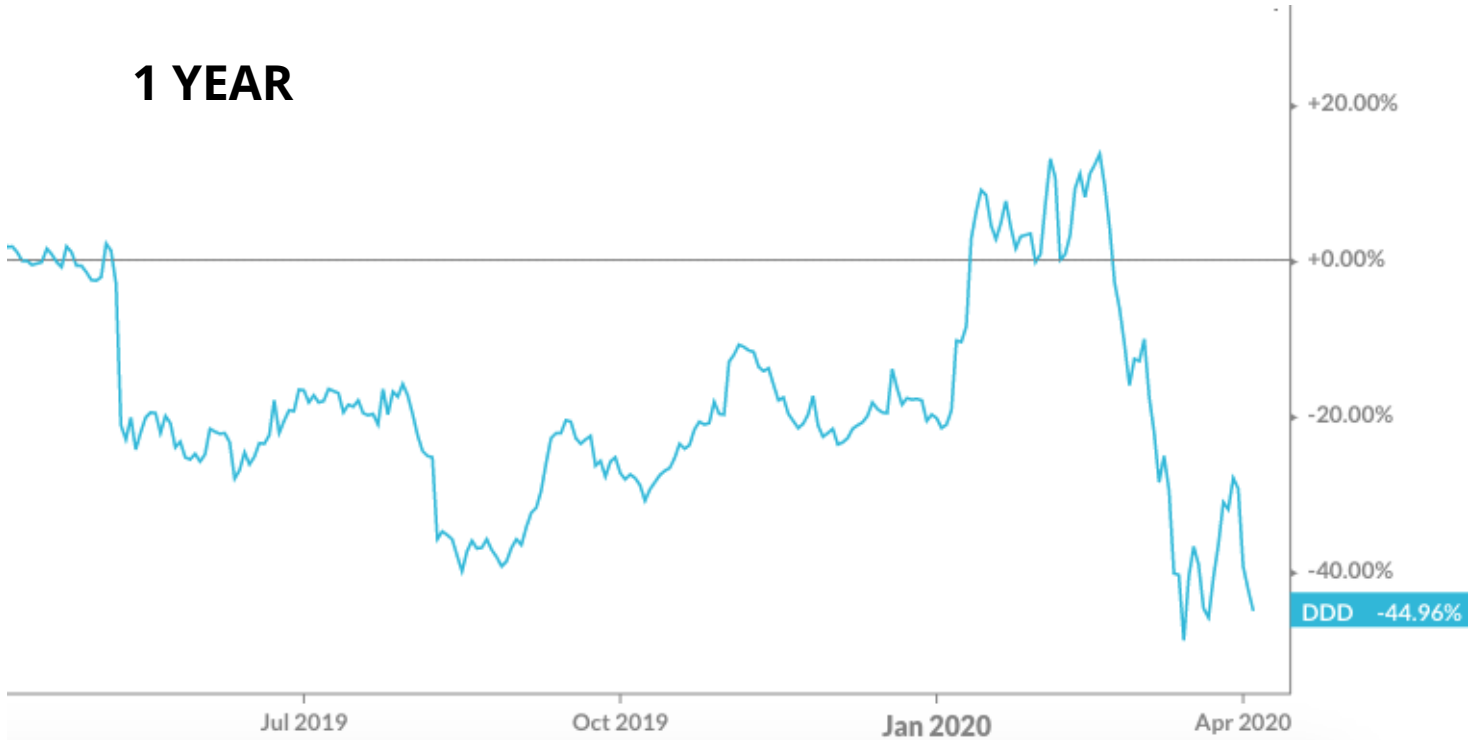
MARKET CAP

DDD



SHARE PRICE PERFORMANCE

1 YEAR



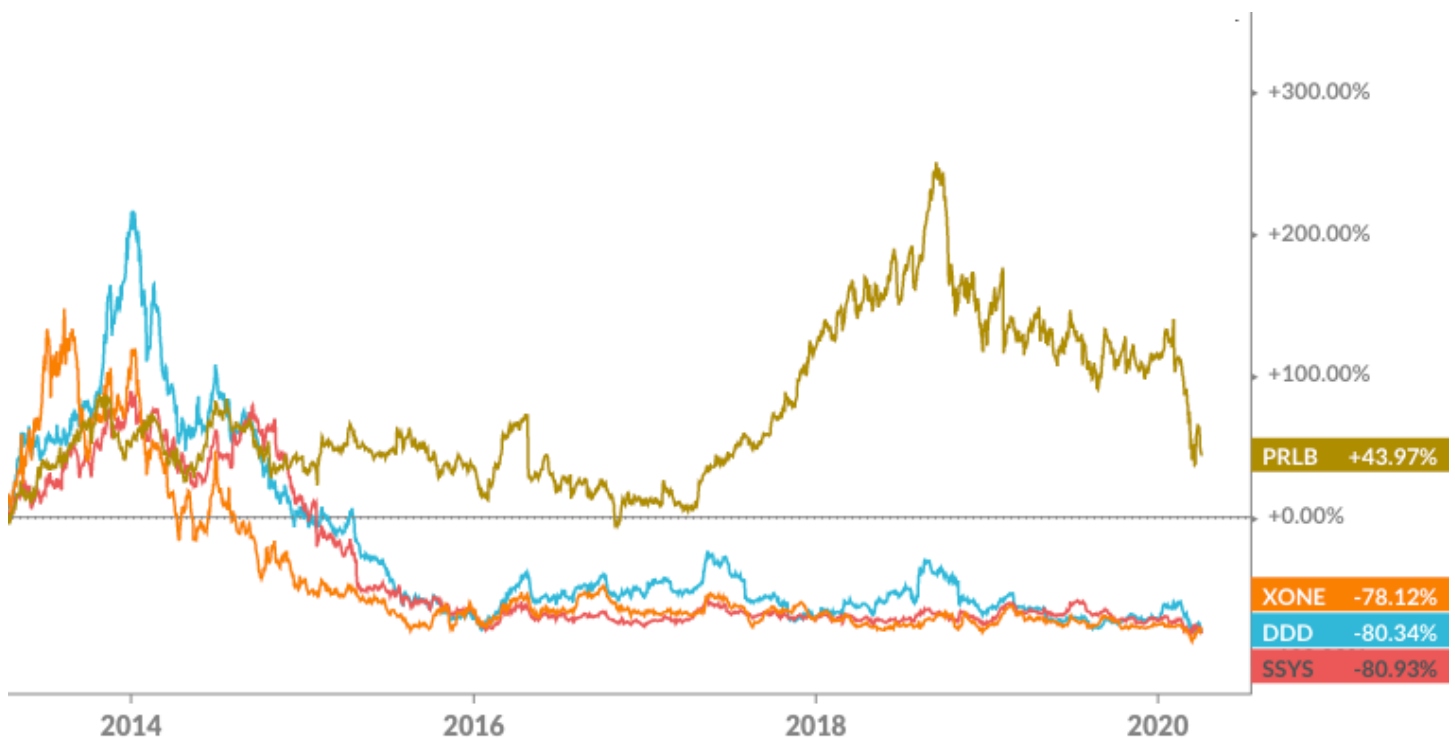
3 YEAR



ANALYSIS

3D Systems (DDD) operates in an industry that was hyped to be the next big thing in 2014 but has since faded and fallen completely out of love with investors.

If we look at the chart below, the 3 other main public companies that operate in 3D printing are Stratasys (SSYS), Proto Labs (PRLB), and The Exone Company (XONE). All of them saw a huge rush of demand roughly 6 years ago and all of them are now officially lower with only PRLB still in the green.

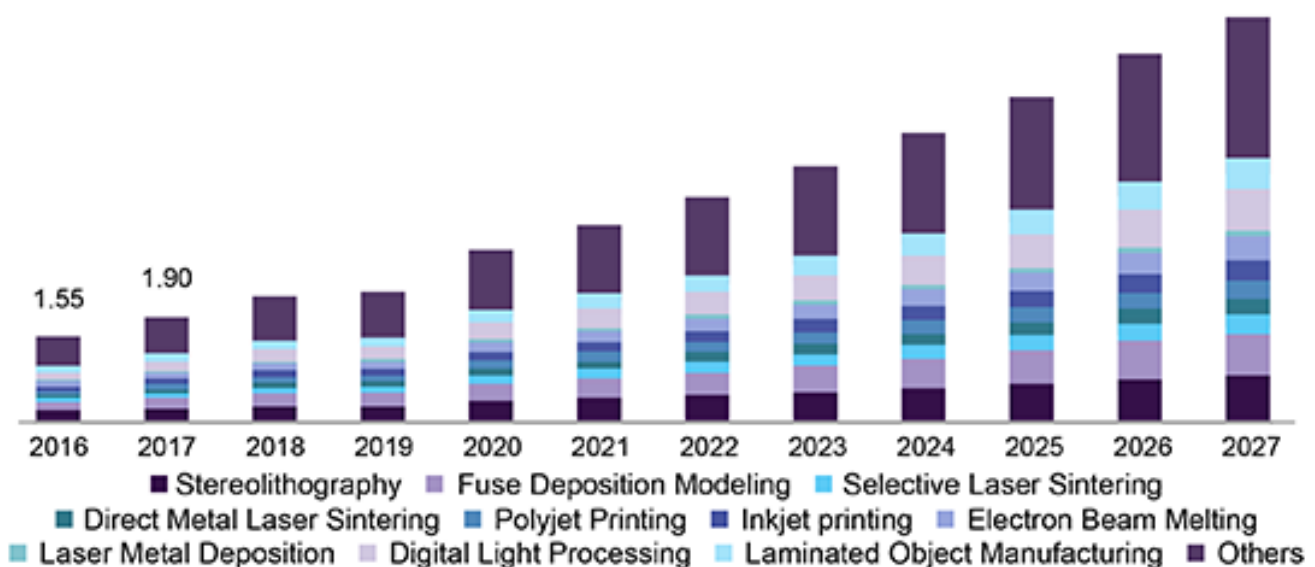


This begs the question... why? There are several reasons.

1. The companies are not growing nearly as fast as many of them thought (will discuss more later on)
2. Many of them are not profitable (will discuss more later on)
3. Competition from bigger players is growing at lightning speed from the likes of HP, Xerox, GE, Alcoa, Siemens, etc.

These are all of great concern to investors, especially DDD because the industry itself is growing rapidly and is expected to continue while DDD isn't. For example, the global 3D printing market size was valued at \$11.58 billion in 2019 and is expected to expand at a CAGR greater than 14% from 2020 to 2027. Globally, 1.42M units of 3D printers were shipped in 2018 and this number is expected to reach 8.04M units by 2027.

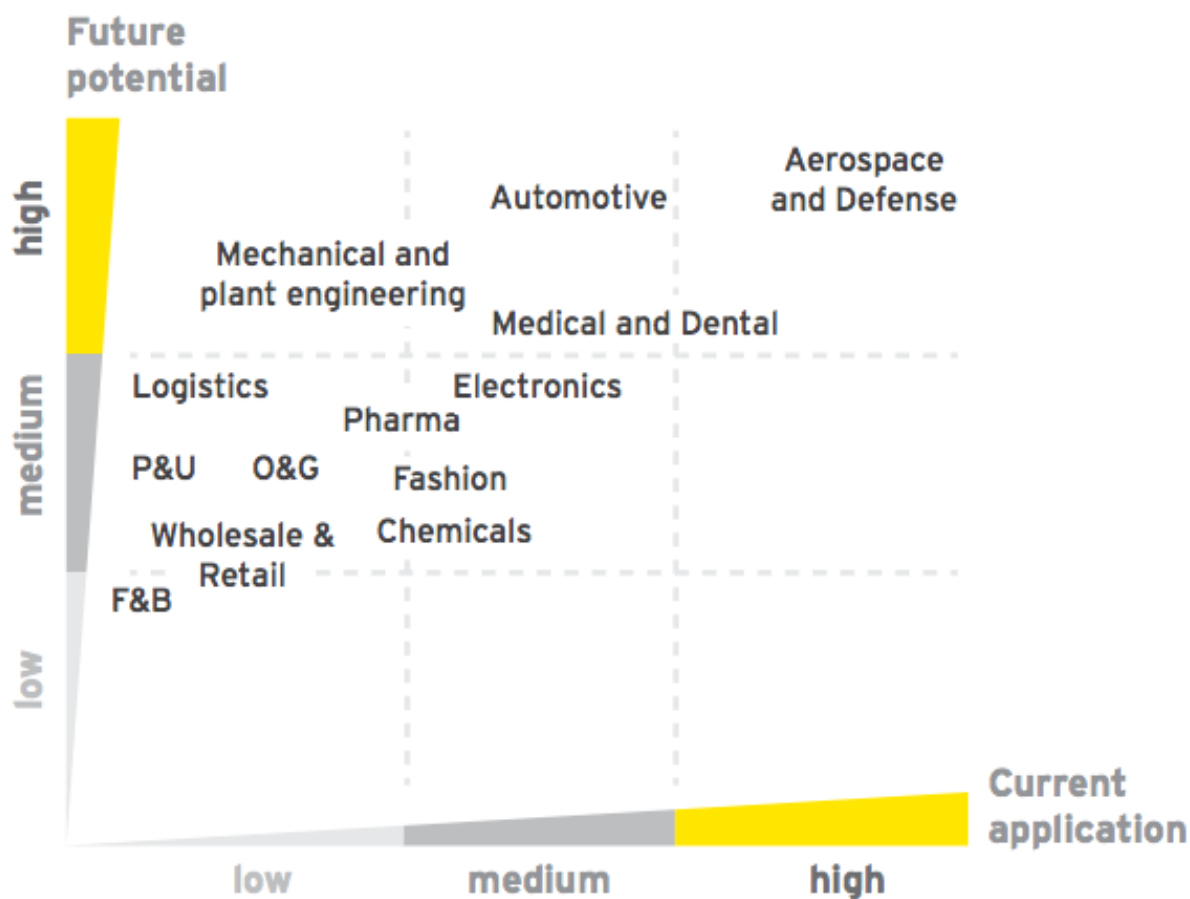
North America 3D Printing market size, by technology, 2016 - 2027 (USD Billion)



Below is a current snapshot of where the industry is today and where it is heading, according to Ernst & Young.

Most of the work being done with 3D printing is happening in the aerospace and defense industry and is also considered the space with the most potential. The medical and dental industry and automotive industry is also ripe for DDD and others to take advantage of.

Right now, logistics and mechanical/plant engineering are huge opportunities but are still not being fully tapped into.



Interesting Industry Use Cases

- Nike
 - Already using 3DP in its automatically knitted Flyknit shoe fabric, Nike is pushing 3DP further through a new design and manufacturing center in partnership with DreamWorks Animation. It could be capable of nearly instantaneous digital print applications, photo-real 3D visualizations and ultra-rapid prototyping.
- Unilever
 - Unilever leverages 3DP injection moulds for its household care and laundry goods divisions, slashing lead time for prototype parts by up to 40%. It 3D prints injection mould tools to create prototype parts in final material, for full functional and consumer testing.
- Hershey
 - Hershey engaged consumers to create unique designs through a 3DP candy machine. Consumers interacted with a library of 3D graphics on an iPad to get the machine to form a number of chocolate designs, providing Hershey valuable insights on preferences.
- Mattel
 - Mattel showcased ThingMaker 3DP to create customizable toys at the New York Toy Fair. Developed in collaboration with AutoDesk, it comes with an app that lets users select from dozens of 3D design blueprints, so they can print out parts that can be easily connected
- BMW
 - BMW developed a one-piece, light-metal, 3D-printed water pump wheel to replace the previously applied model composed of plastic parts. The key reason is that 3DP allows for the inclusion of design refinements, achieves ideal aerodynamics of the component and confirms the dimensional accuracy of the water pump wheel during the entire production process.

At this point in time, DDD specifically is capitalizing on the following industries:

1. Aerospace and Defense: Aerospace and defense customers use their solutions to achieve manufacturing productivity improvements such as increased speed and reliability of quality assurance and validation processes, lowered fuel costs through light weighting and parts consolidation, increased manufacturing productivity through innovative 3D printed casting patterns, 3D data recovery, injection-mold design and direct metal printing of airworthy parts.
2. Automotive: Their production solutions are used by automotive manufacturers to develop lighter weight parts to drive down manufacturing costs, design and produce innovative assemblies that reduce part counts, provide greater strength and efficiency and create realistic prototypes that reduce time from the product development process.
3. Dental: They offer a broad range of clinically validated digital dentistry technologies and materials that allow dental labs to access advanced digital workflows, driving speed, efficiency and precision of a range of indications delivered to patients. In fact, 3D Systems provides Align (ALGN) with highly customized production solutions for their Invisalign clear aligners.
4. Durable Goods: Manufacturers of durable goods use their solutions to increase factory automation and connectivity, create greater product personalization and achieve just-in-time manufacturing. Their products and services help reduce mass production, one-size-fits-all manufacturing, long lead time and large inventories for their durable goods customers.
5. Healthcare: They partner with surgeons, healthcare professionals and medical device manufacturers to offer a range of precision healthcare solutions, including 3D printed anatomical models, VSP and patient-specific surgical guides, instrumentation and implants.

One thing we want to note that we found quite concerning in DDD's 10K are their legal issues, specifically with the U.S. government.

"On July 19, 2019, we received a notice of immediate suspension of federal contracting from the United States Air Force, pending the outcome of an ongoing investigation. The suspension applied to 3D Systems, its subsidiaries and affiliates, and was related to export controls violations involving 3D Systems' On Demand manufacturing business described above. Under the suspension, we were generally prohibited from receiving new federal government contracts or subcontracts from any executive branch agency as described in the provisions of 48 C.F.R Subpart 9.4 of the Federal Acquisition Regulation. The suspension allowed us to continue to perform current federal contracts, and also to receive awards of new subcontracts for items under \$35,000 and for items considered commercially available off-the-shelf items. The Air Force lifted the suspension on September 6, 2019 following the execution of a two-year Administrative Agreement with the Company. The Company is now eligible to obtain and perform U.S. government contracts and subcontracts without the suspension restrictions. Under the Administrative Agreement, the Company will be monitored and evaluated by independent monitors who will report to the Air Force on the Company's compliance with the terms of the Company's Ethics & Compliance Program, including our overall culture, government contracting compliance program, and export controls compliance program. The Company's failure to comply fully with the terms of the Administrative Agreement or the commencement of separate actions by other agencies of the federal government could result in reinstatement of the suspension or debarment from future federal contracting, which would result in decreased revenues and additional harm to our reputation and otherwise adversely affect our business, operating results and financial condition, Although we cannot predict the ultimate resolution of these matters, we have incurred and expect to continue to incur significant legal costs and other expenses in connection with responding to the U.S. government agencies."

While we believe a lot of this is legal jargon, it's something we wanted to bring to light as it appears they are down to their last strike with the U.S. government. It's good to see their suspension has been lifted but the fact that they must be continuously monitored going forward is not something we're a fan of.

On a brighter note, DDD has what appears to be a good amount of intellectual property in their possession. As of December 31, 2019 and 2018 they held 1,256 and 1,250 patents worldwide, respectively.

At December 31, 2019 and 2018, they also had 322 and 295 pending patent applications worldwide, respectively.

The principal issued patents covering aspects of our various technologies will expire at varying times through the year 2027.

In addition, they achieved a milestone in 2019 by manufacturing more than one million medical devices using metal digital manufacturing solutions for our partners in the medical device industry. Through their ISO-13485 certified facilities in Littleton, Colorado and Leuven, Belgium, they supported manufacturing of more than 85 FDA compliant medical device families.

In fact, seven of the top ten medical device companies in the world within the spine industry use their healthcare solutions to launch products that improve standard of patient care worldwide.

CUBE'S TOP PROS FOR DDD



GROWING
MARKET



INTELLECTUAL
PROPERTY



CUSTOMERS

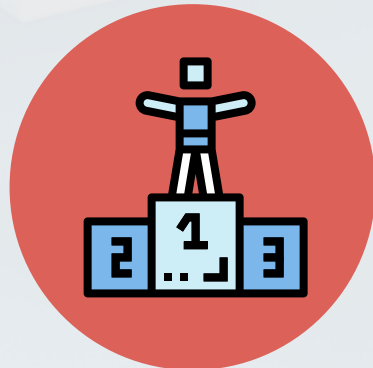
CUBE'S TOP CONS FOR DDD



DECLINING
SALES



NOT
PROFITABLE



GROWING
COMPETITION

FINANCIAL STATEMENTS

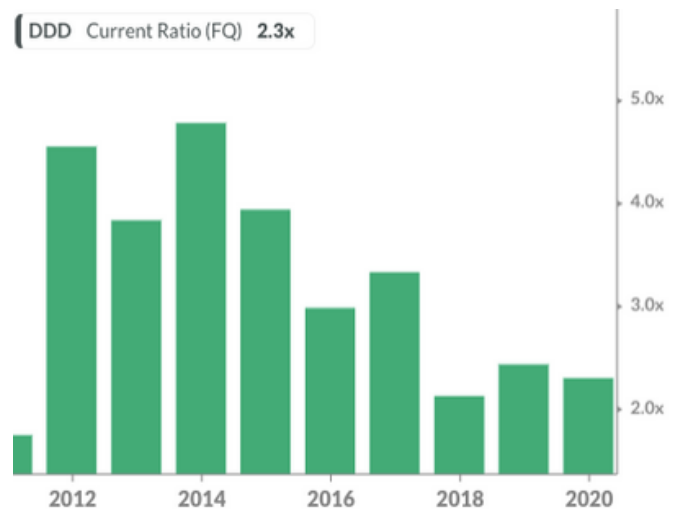
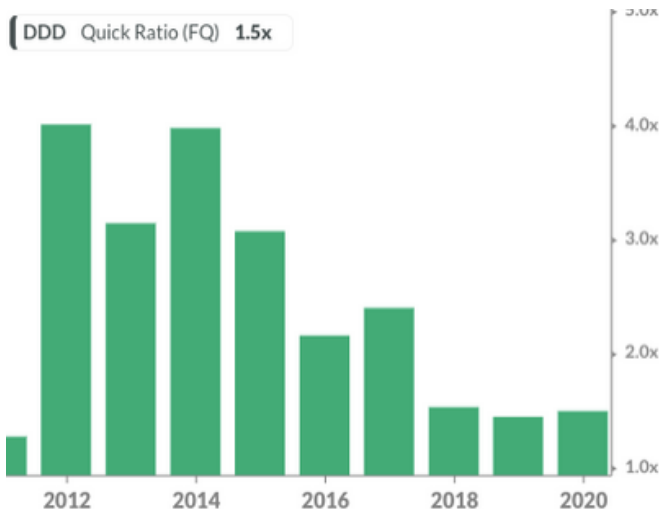
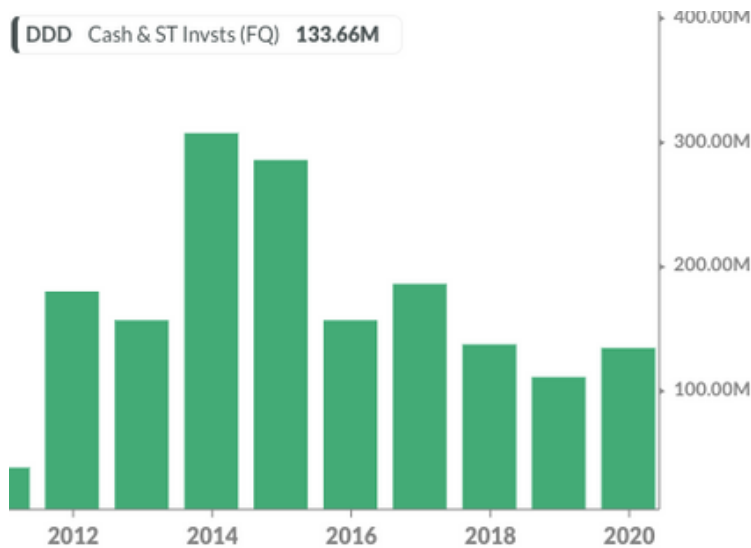
BALANCE SHEET

(In thousands, except par value)

	December 31, 2019	December 31, 2018
ASSETS		
Current assets:		
Cash and cash equivalents	\$ 133,665	\$ 109,998
Accounts receivable, net of reserves — \$8,762 (2019) and \$8,423 (2018)	109,408	126,618
Inventories	111,106	133,161
Prepaid expenses and other current assets	18,991	27,697
Total current assets	373,170	397,474
Property and equipment, net *	92,940	107,718
Intangible assets, net	48,338	68,275
Goodwill	223,176	221,334
Right of use assets	36,890	—
Deferred income tax asset	5,408	4,217
Other assets	27,390	26,814
Total assets	\$ 807,312	\$ 825,832
LIABILITIES AND EQUITY		
Current liabilities:		
Current portion of long term debt	\$ 2,506	\$ —
Current right of use liabilities	9,569	—
Current portion of capitalized lease obligations	—	654
Accounts payable	49,851	66,722
Accrued and other liabilities	63,095	59,265
Customer deposits	5,712	4,987
Deferred revenue	32,231	32,432
Total current liabilities	162,964	164,060
Long-term debt, net of deferred financing costs	45,215	25,000
Long-term right of use liabilities	35,402	—
Long-term portion of capitalized lease obligations	—	6,392
Deferred income tax liability	4,027	6,190
Other liabilities	45,808	39,331
Total liabilities	293,416	240,973
Redeemable noncontrolling interests ("RNCI")	—	8,872
Commitments and contingencies (Note 22)		
Stockholders' equity:		
Common stock, \$0.001 par value, authorized 220,000 shares; issued 121,266 (2019) and 118,650 (2018)	120	117
Additional paid-in capital	1,371,564	1,355,503
Treasury stock, at cost — 3,670 shares (2019) and 2,946 shares (2018)	(18,769)	(15,572)
Accumulated deficit	(793,709)	(722,701)
Accumulated other comprehensive loss	(37,047)	(38,978)
Total 3D Systems Corporation stockholders' equity	522,159	578,369
Noncontrolling interests	(8,263)	(2,382)
Total stockholders' equity	513,896	575,987
Total liabilities, redeemable noncontrolling interests and stockholders' equity	\$ 807,312	\$ 825,832

Looking at the balance sheet, DDD is in good shape to handle the turbulence that COVID19 will most likely bring down on the business. The company is sitting on around \$133M in cash and cash equivalents and only \$2.3M worth of debt that is due within 12 months. For debt maturities greater than 12 months, DDD has around \$45M which is still very manageable.

Inventories, account receivable, prepaid expenses, and accounts payable all appear to be inline and normal as well.



FINANCIAL STATEMENTS

INCOME STATEMENT

<i>(in thousands, except per share amounts)</i>	Year Ended December 31,		
	2019	2018	2017
Revenue:			
Products	\$ 384,577	\$ 429,215	\$ 391,596
Services	244,517	258,445	254,473
Total revenue	629,094	687,660	646,069
Cost of sales:			
Products	229,821	229,793	216,446
Services	121,232	133,473	124,784
Total cost of sales	351,053	363,266	341,230
Gross profit	278,041	324,394	304,839
Operating expenses:			
Selling, general and administrative	254,355	272,287	264,185
Research and development	80,790	95,298	94,627
Total operating expenses	335,145	367,585	358,812
Loss from operations	(57,104)	(43,191)	(53,973)
Interest and other expense, net	(7,996)	(37)	(3,548)
Loss before income taxes	(65,100)	(43,228)	(57,521)
Provision for income taxes	(4,532)	(2,035)	(7,802)
Net loss	(69,632)	(45,263)	(65,323)
Less: net income attributable to noncontrolling interests	248	242	868
Net loss attributable to 3D Systems Corporation	\$ (69,880)	\$ (45,505)	\$ (66,191)
Net loss per share available to 3D Systems Corporation common stockholders - basic and diluted	\$ (0.61)	\$ (0.41)	\$ (0.59)

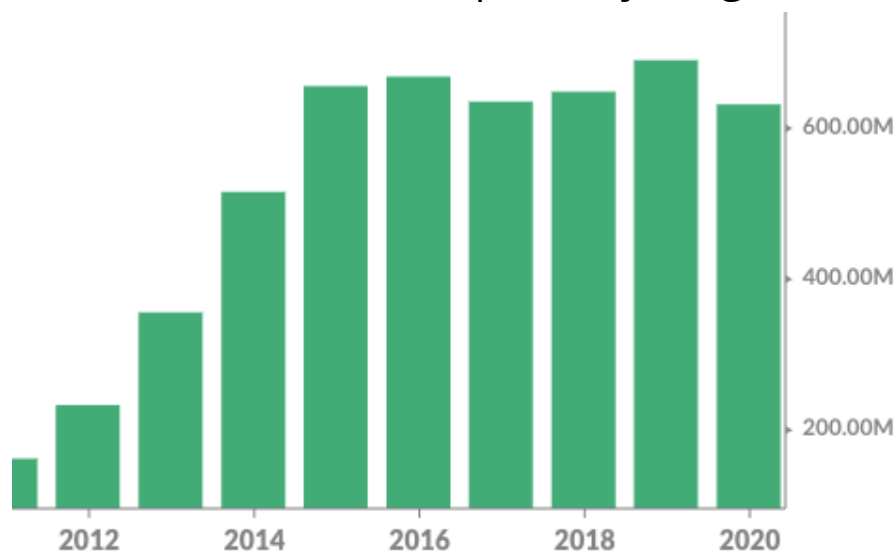
When we eye up FY19, it wasn't something you want to see from an investor standpoint. For the full year 2019, the company reported GAAP revenue of \$629.1M compared to \$687.7M for the prior year, and even lower than the \$646M in 2017.

Printer revenue decreased 24.3%, Materials revenue decreased 0.6%, healthcare solutions revenue decreased 3.5% including a large enterprise customer and increased 9.8% excluding this same customer, on demand services revenue decreased 13.5% and software revenue decreased 2.7%. In other words, there was zero growth in any of their segments.

The company also reported full year 2019 GAAP loss of \$0.61 per share compared to a GAAP loss of \$0.41 per share in the prior year, and non-GAAP loss of \$0.08 per share compared to non-GAAP earnings of \$0.15 per share in the prior year.

2019 was also worse from a profitability standpoint than 2017 as FY17 saw gross profit of \$304M vs. FY19's \$278M and loss per share of -\$0.59 vs. -\$0.61.

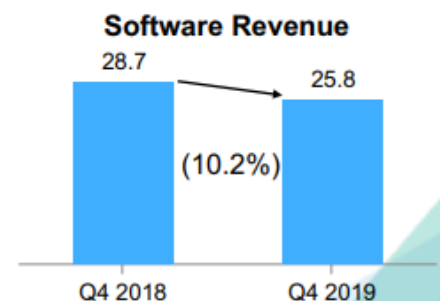
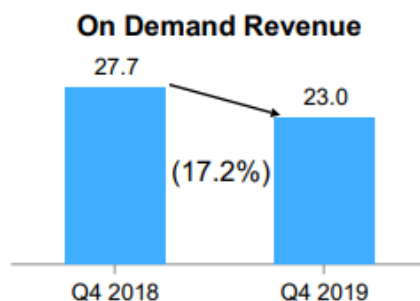
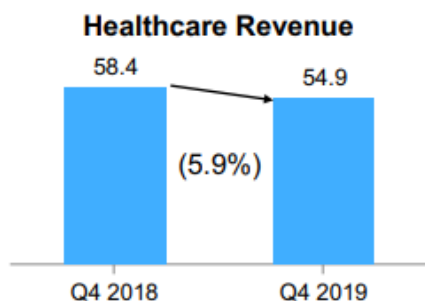
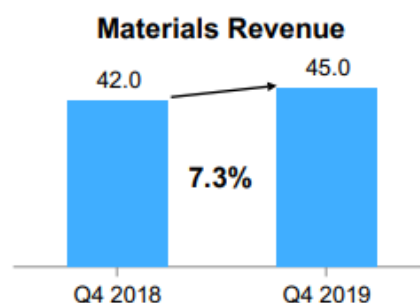
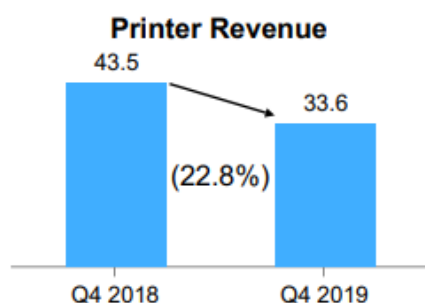
If we zoom out even more, there hasn't been any revenue growth out of DDD since 2015 and we don't expect anything different in 2020.



For Q4 2019, the company reported GAAP revenue of \$164.6M, compared to \$180.7M in the same period last year.

Printer revenue decreased by 22.8% due to the delay in factory metals printing shipments, timing of large enterprise customer orders and the softer macro industrial environment. Materials revenue increased 7.3% (the only segment to grow), Healthcare solutions revenue decreased 5.9% including a large enterprise customer and decreased 2.3% excluding this same customer, on demand services revenue decreased 17.2% and software revenue decreased 10.2%.

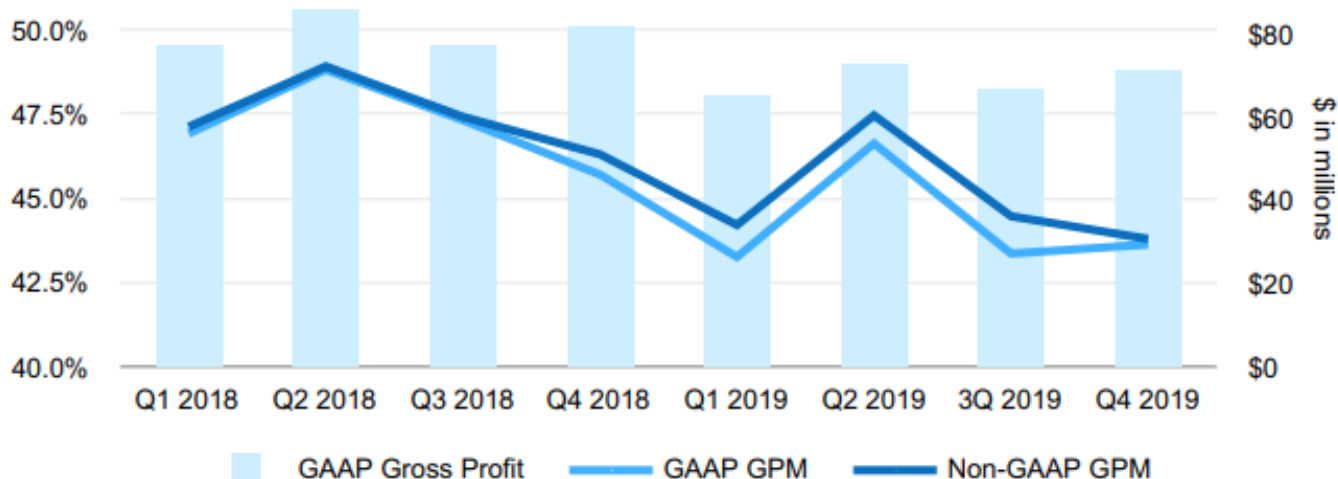
The company reported fourth quarter 2019 GAAP loss of \$0.04 per share compared to a GAAP loss of \$0.04 per share in the same period last year, and non-GAAP earnings of \$0.05 per share compared to non-GAAP earnings of \$0.10 per share in the same period last year.



What's even worse is that margins are falling as well. If we date back to 2018, DDD was seeing gross margins of nearly 50%. This now down to the low 40% range.

If we actually go back to 2014, gross margins were in the 52% range. The only area to see gross margin improvement Y/Y was in services from 48.4% to 50.4%. Unfortunately, materials margins have fallen from 70.3% to 68.8% while products margins have fallen off a cliff from 30.8% to 17.9%.

<i>(Dollars in thousands)</i>	Year Ended December 31,				Change in Gross Profit		Change in Gross Profit Margin	
	2019		2018		\$	%	Percentage Points	%
	Gross Profit	Gross Profit Margin	Gross Profit	Gross Profit Margin				
Products	\$ 38,526	17.9 %	\$ 79,928	30.8 %	\$ (41,402)	(51.8)%	(12.9)	(41.9)%
Materials	116,230	68.8 %	119,494	70.3 %	(3,264)	(2.7)%	(1.5)	(2.1)%
Services	123,285	50.4 %	124,972	48.4 %	(1,687)	(1.3)%	2.0	4.1 %
Total	\$ 278,041	44.2 %	\$ 324,394	47.2 %	\$ (46,353)	(14.3)%	(3.0)	(6.4)%



FINANCIAL STATEMENTS

CASH FLOW

<i>(in thousands)</i>	Year Ended December 31,		
	2019	2018	2017
Cash flows from operating activities:			
Net loss	\$ (69,632)	\$ (45,263)	\$ (65,323)
Adjustments to reconcile net loss to net cash provided by operating activities:			
Depreciation and amortization	50,396	59,293	62,041
Stock-based compensation	23,587	29,253	27,260
Lower of cost or market adjustment	—	—	12,883
Provision for bad debts	1,308	1,824	1,051
Loss on the disposition of property, equipment and other assets	2,282	—	—
Provision for deferred income taxes	(3,354)	(2,990)	(5,567)
Impairment of assets	1,728	1,998	2,427
Changes in operating accounts:			
Accounts receivable	15,071	599	3,987
Inventories	18,447	(34,035)	(17,716)
Prepaid expenses and other current assets	9,150	40,922	(49,834)
Accounts payable	(16,846)	11,559	12,448
Deferred revenue and customer deposits	677	(2,383)	(121)
Accrued and other current liabilities	960	(47,851)	50,330
All other operating activities	(2,193)	(8,130)	(7,739)
Net cash provided by operating activities	31,581	4,796	26,127
Cash flows from investing activities:			
Purchases of property and equipment	(23,985)	(40,694)	(30,881)
Cash paid for acquisition	—	—	(34,291)
Proceeds from sale of assets	1,620	333	273
Purchase of noncontrolling interest	(2,500)	—	(2,250)
Other investing activities	(2,007)	(1,466)	(3,510)
Net cash used in investing activities	(26,872)	(41,827)	(70,659)
Cash flows from financing activities:			
Proceeds from borrowings	100,000	25,000	—
Repayment of borrowings/long term debt	(76,768)	—	—
Payments related to net-share settlement of stock based compensation	(3,194)	(7,367)	(5,545)
Payments on earnout consideration	—	(2,675)	(3,206)
Other financing activities	(1,338)	(694)	(437)
Net cash provided by (used in) financing activities	18,700	14,264	(9,188)
Effect of exchange rate changes on cash, cash equivalents and restricted cash	289	(3,145)	5,303
Net increase (decrease) in cash, cash equivalents and restricted cash	23,698	(25,912)	(48,417)
Cash, cash equivalents and restricted cash at the beginning of the period *	110,919	136,831	185,248
Cash, cash equivalents and restricted cash at the end of the period *	\$ 134,617	\$ 110,919	\$ 136,831

Looking at the statement of cash flows, DDD was actually able to generate some decent operating cash flow to the tune of \$31.5M, \$21.5M of which was generated in Q4.

After CAPEX though, DDD isn't really generating any free cash flow. The company is still heavily reliant on debt and equity to sustain the business. As we see in the financing cash flows, DDD raised \$100M in new debt and used around \$76M of it to pay down maturing debt.

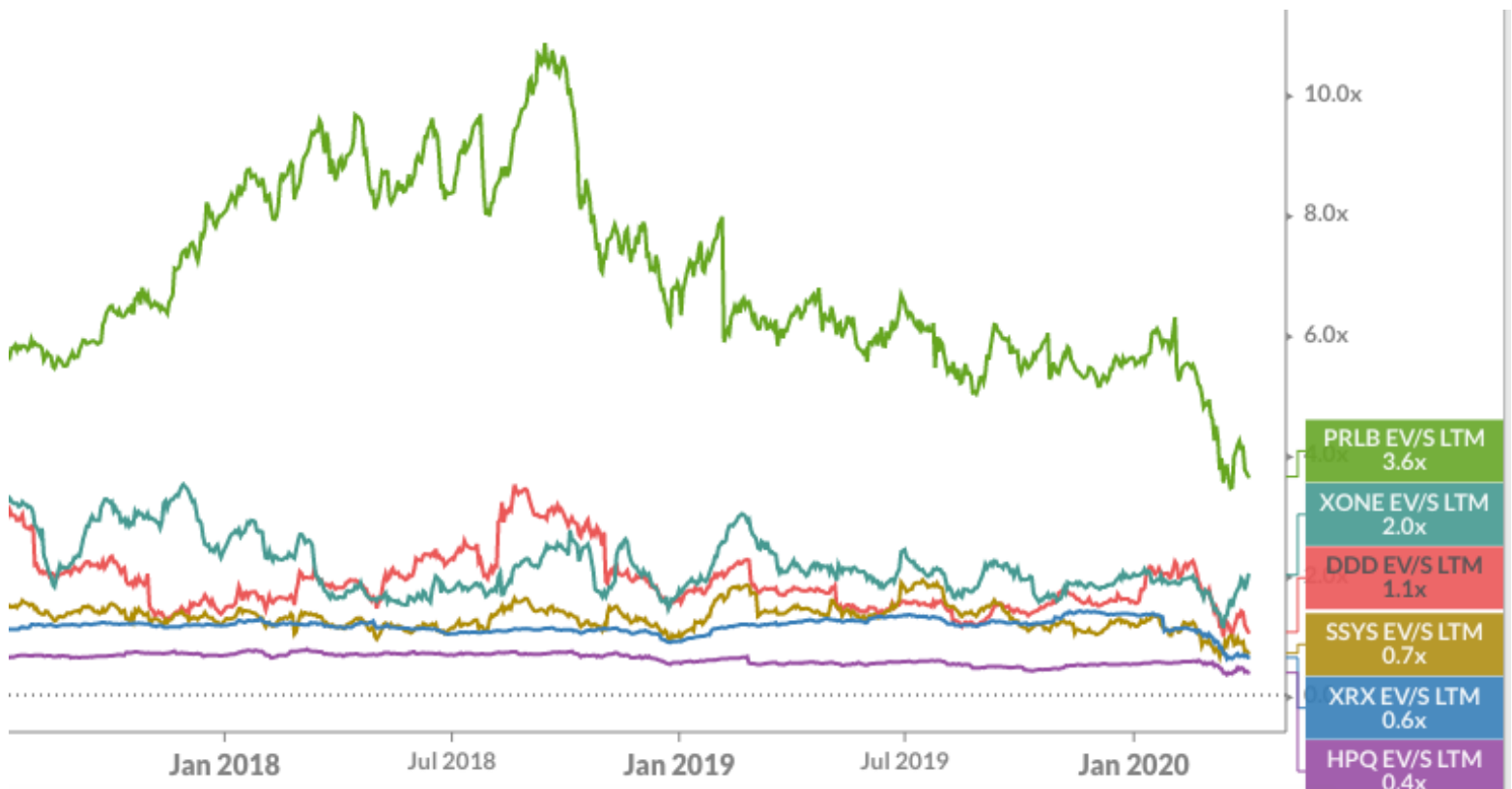
CUBE does not anticipate this to change anytime soon as revenues look on pace to decrease Y/Y once again and margins continue to slide.



DDD FUNDAMENTALS

We are going to compare DDD to the companies previously mentioned and those are Strataysys (SSYS), Proto Labs (PRLB), The Exone Company (XONE) and some others like Xerox (XRX) and HP (HPQ).

DDD is in the middle of the pack on an enterprise value to sales multiple at 1.1x. We are going to use the last twelve months as it will be pretty hard to value companies on the next 12 months given the uncertainty COVID19 has created. At 1.1x sales, this is not expensive in CUBE's view.

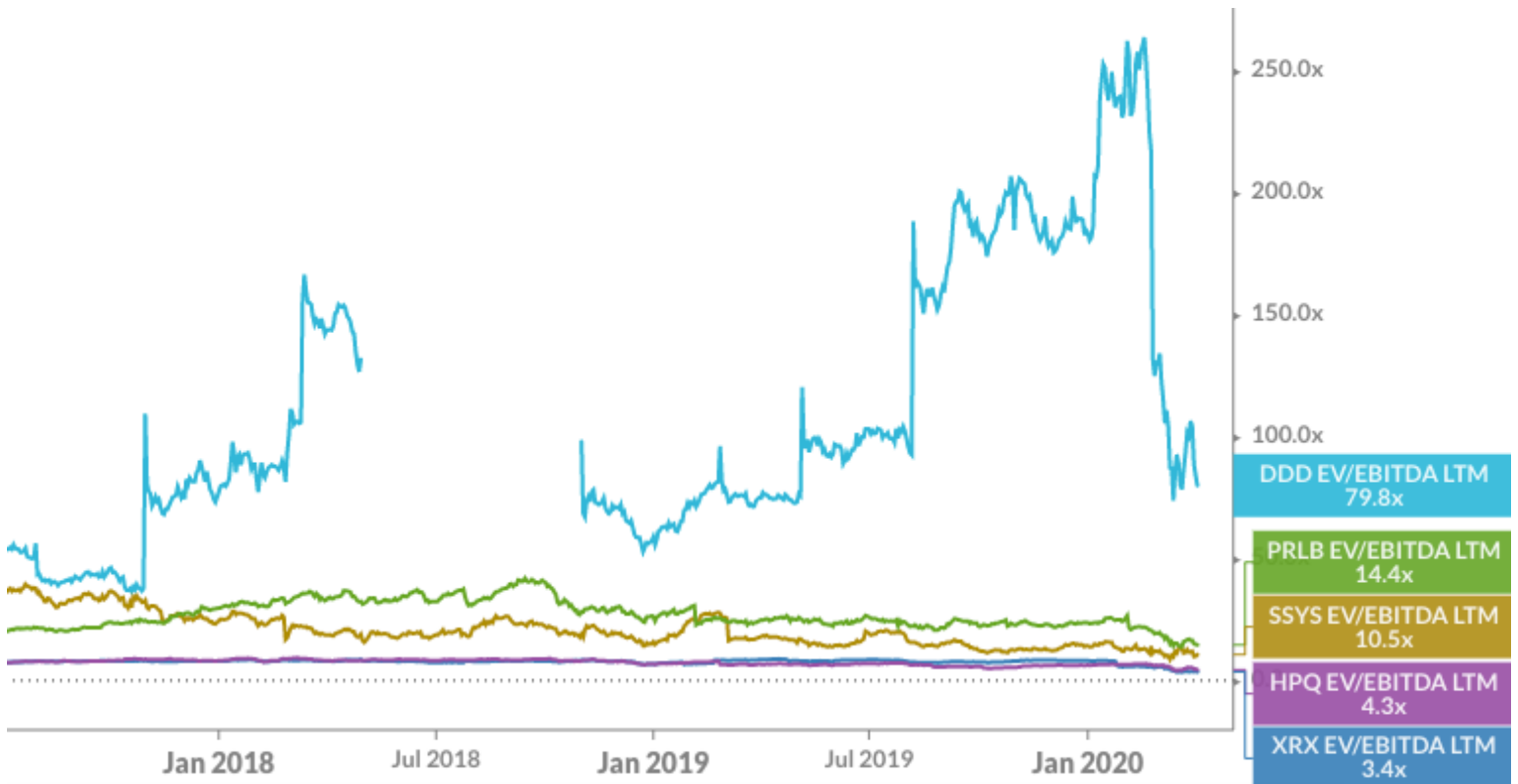




DDD FUNDAMENTALS

As we mentioned earlier, DDD's lack of revenue growth and slimming margins do not help the company as we move down the income statement. DDD is the most expensive on an enterprise value to EBITDA (earnings before interest, taxes, depreciation, amortization) multiple at 79.8x.

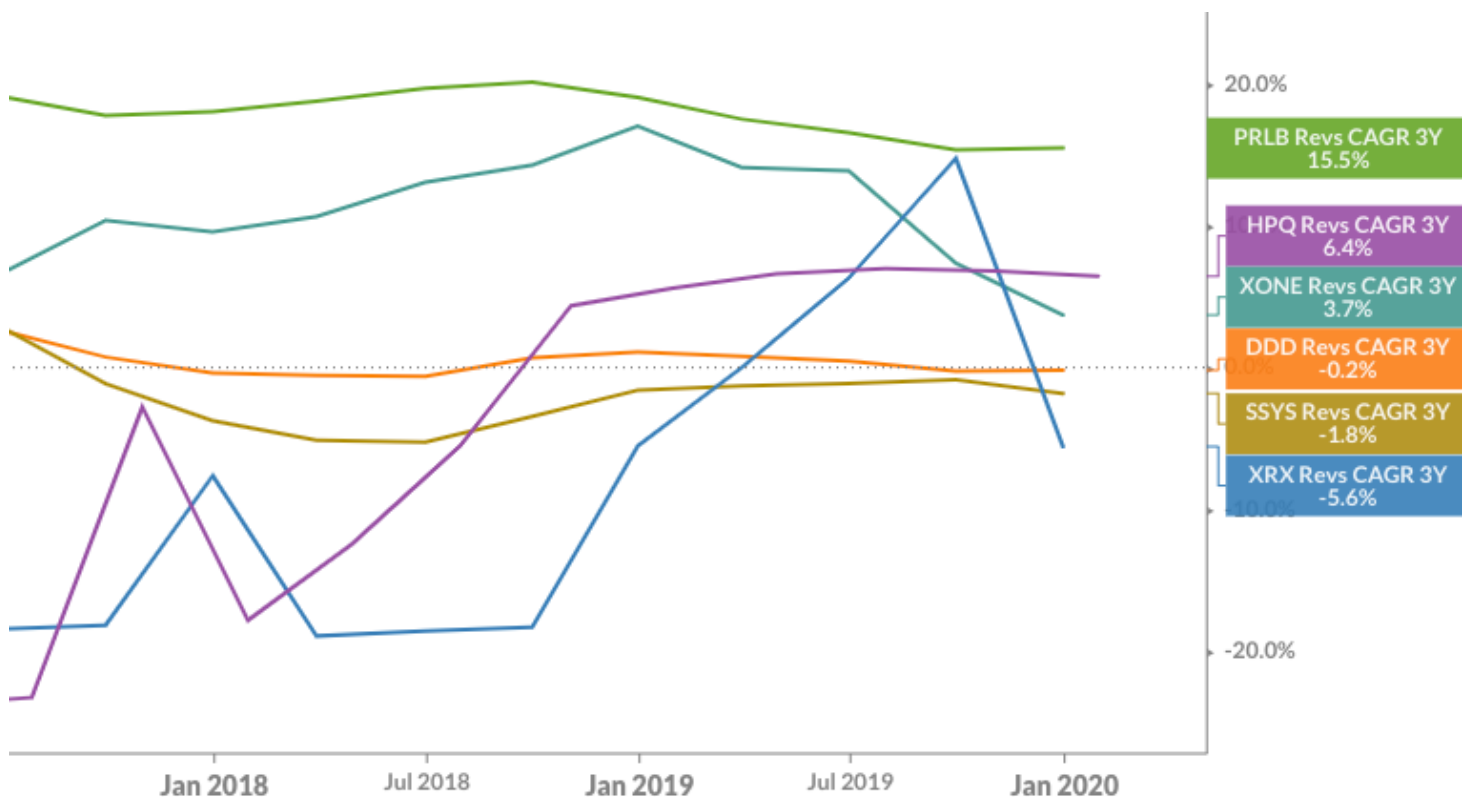
Other pure plays like PRLB and SSYS are in the 10-15x range, XONE does not generate EBITDA, and the older players like XRX and HPQ trade in the 4x range.





DDD FUNDAMENTALS

When looking at revenue growth over the last 3 years, DDD has been slightly negative at -0.2% CAGR. PRLB, which we saw in the performance comparisons in the beginning of this report, has been outperforming its peers in the 3D space because of their growth at 15.5% CAGR over the last 3 years. XONE is also outpacing DDD but SSYS is not alongside XRX.





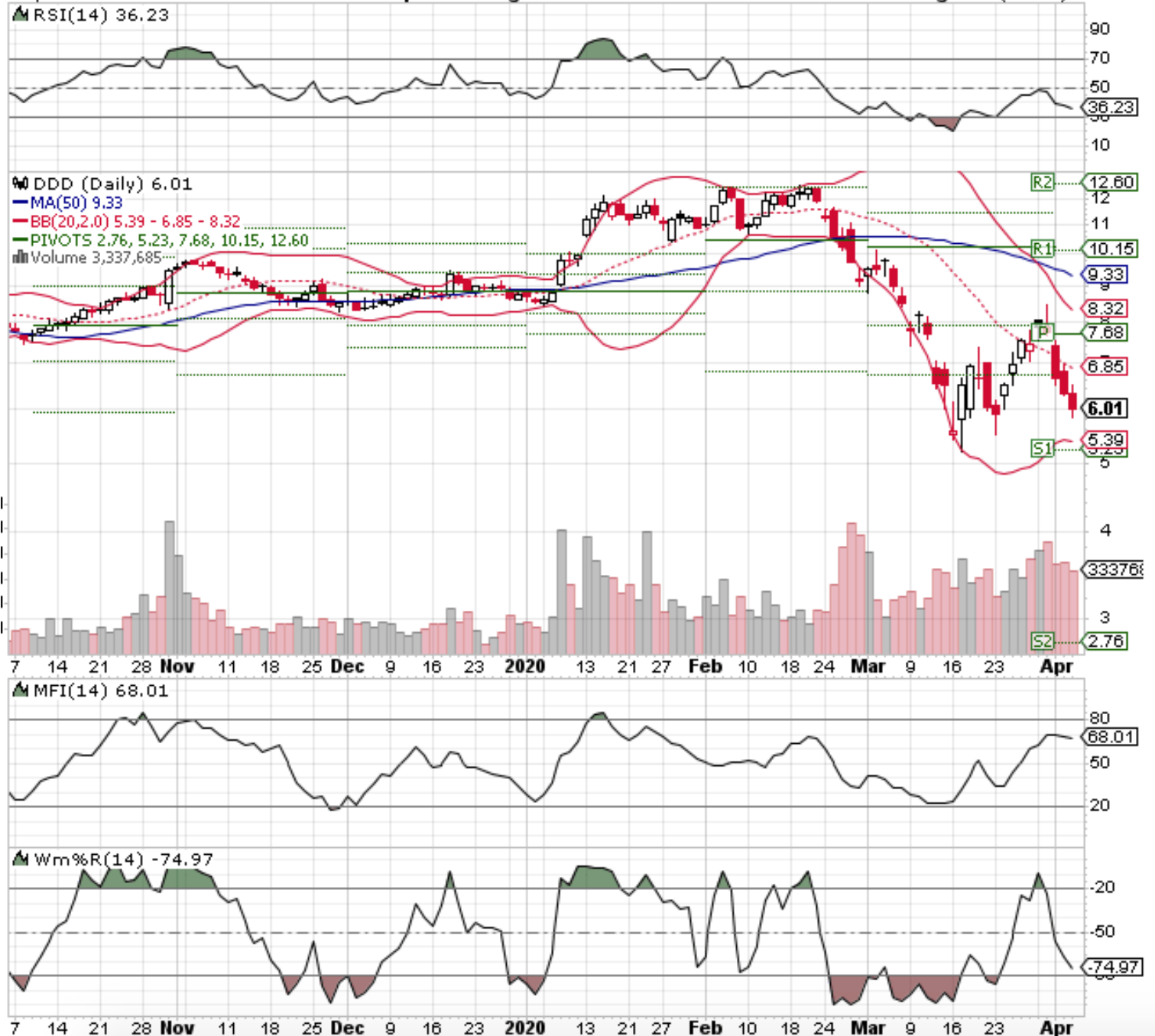
DDD TECH ANALYSIS

DDD 3D Systems Corp. NYSE

3-Apr-2020

© StockCharts.com

Open 6.30 High 6.47 Low 5.84 Close 6.01 Volume 3.3M Chg -0.29 (-4.60%)



TECH ANALYSIS SUMMARY

Looking at the charts, DDD is most likely going to retest the recent lows made earlier in March as the next areas of support are at the lower bollinger band of \$5.39 and S1 fibb level of \$5.23.

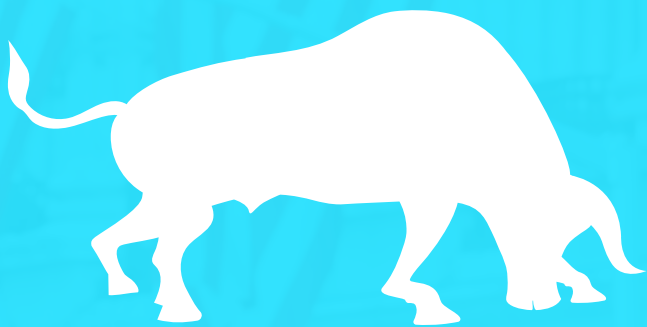
These two areas should be very good support levels as the RSI and W%R are also nearing oversold. The MFI has not been that great of a tool for DDD so CUBE is not placing much weight on it at this time.

If DDD can find support in this area, the next levels of resistance to the upside are going to be the 20 day moving average of \$6.85 and pivot point of \$7.68.

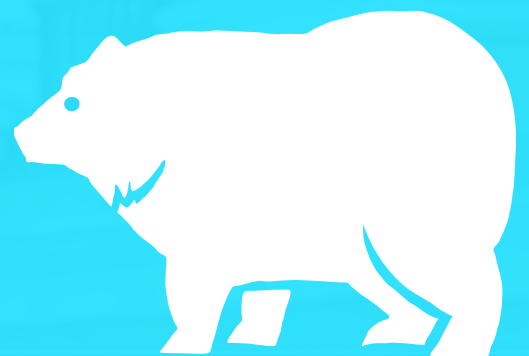
CUBE believes after moving to the downside for a little longer, the stock will catch support and test those two resistance levels in the coming months.



BULLISH OR BEARISH?



VS.



**MORE BULLISH
(POSITIVE)**

**MORE BEARISH
(NEGATIVE)**





DDD CONCLUSION

Given everything covered, there is little to get excited about with 3D Systems (DDD). The stock will most likely post another year of revenue contraction on top of thinning gross margins.

In addition, larger and more capitalized companies will continue to eat up market share and unfortunately there isn't much from a fundamental standpoint to get behind DDD as a "value play".

There are few things more worrisome than a company that is operating in a booming industry but isn't growing. While CUBE is bullish on the 3D space, it doesn't seem like DDD management is effectively operating and positioning the company to grab meaningful market share.

CUBE worries continued cash burn will lead to more debt and/or equity offerings and competition will continue to move past them as the industry unfolds. For these reasons, CUBE believes it is better to avoid DDD until there is a legitimate turnaround in the business. At best, DDD is a trading tool in our eyes.

DISCLAIMER

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