

T2 BIOSYSTEMS, INC.

Early Insight into Commercialization Sounds Promising

• **Bottom Line:** We are maintaining our product revenue projections in the early days of the T2Candida launch. We reiterate our Market Perform rating but raise our PT to \$23 (from \$18) to reflect the roll-forward of our valuation period by one quarter.

• **In-line quarter.** TTOO reported 4Q14 adjusted EPS of (\$0.45) vs. our (\$0.46) estimate and the Street's (\$0.44). Opex of \$9.0MM is on track with our and the company's expectations. The ~60% increase YoY was driven by pivotal trial expenses, R&D for add'l applications, expansion of marketing program, build-out of US commercial infrastructure, and an increase in share-based compensation and other public company expenses. Mgmt expects opex to rise ~30% QoQ in 1Q15 due to investments in commercialization, timing of R&D and marketing expenses, and incremental expenses relating to Canon partnership.

• **Sales force build-out continues in 2015; targets 15 sales reps and 30 hospital contracts by YE with strong receptivity to date.** After nearly doubling the sales force to 7 in Nov., mgmt plans to double the force again to 15 by YE15 with another ~3 added in the next 60-90 days. The sales force has initially engaged with ~25% of the 450 target hospitals in the US seeing a high volume of high-risk patients. To date nine hospitals have completed economic analyses showing a strong ROI on the T2Candida product though the company did not increase its target of 30 contracts by YE given the 6-12 mo sales cycle. Recent publications in *Clinical Infectious Diseases* (CID) and *The Journal of the American Medical Association* (JAMA) have yielded better-than-expected hospital receptivity to date.

• **T2Bacteria and T2HemoStat on schedule for pivotal trials in 2H15 and 1H16, respectively; optimistic to get T2Lyme program into an FDA trial in <3 years.** The recent partnership with Canon U.S. Life Sciences gives TTOO entry into the under-penetrated Lyme disease market, where currently only 1/10th of the 53K US cases per year are diagnosed due to poor diagnostic protocol and underreporting. Including the new T2Lyme product, mgmt sees total addressable market (TAM) growing to \$3.7B.

• **Heightened interest from potential partners following JAMA and CID publications; mgmt will be selective about future opportunities.** The T2MR platform lends itself well to a number of applications and in particular could be a natural extension to a therapeutics partner.

• **Model adjustments on Canon partnership revenue & higher opex.**

Key Stats: (NASDAQ:TTOO)

S&P 600 Health Care Index:	1,532.67
Price:	\$20.01
Price Target:	\$23.00 from \$18.00
Methodology:	~6x Dec.-17 TTM revs., discounted 1 year back at ~20% rate
52 Week High:	\$24.50
52 Week Low:	\$11.00
Shares Outstanding (mil):	20.0
Market Capitalization (mil):	\$400.2
Book Value/Share:	\$2.65
Cash Per Share:	\$3.68
Net Debt to Total Capital:	NM
Dividend (ann):	\$0.00
Dividend Yield:	0.0%



Dec Yr	1Q	2Q	3Q	4Q	FY Rev	1Q	2Q	3Q	4Q	FY EPS	P/E
2014A	0.0	0.0	0.0	\$0.1	\$0.1	(\$4.90)	(\$6.35)	(\$0.71)	(\$0.45)	(\$4.15)	NM
2015E - New	\$0.2	\$0.3	\$1.4	\$2.8	\$4.6	(\$0.59)	(\$0.60)	(\$0.56)	(\$0.51)	(\$2.27)	NM
2015E - Old	--	--	--	--	\$3.4	--	--	--	--	(\$2.09)	NM
2016E - New	--	--	--	--	\$38.5	--	--	--	--	(\$2.08)	NM
2016E - Old	--	--	--	--	\$36.5	--	--	--	--	(\$1.93)	NM
2017E - New	--	--	--	--	\$114.0	--	--	--	--	(\$1.11)	NM
2017E - Old	--	--	--	--	\$111.0	--	--	--	--	(\$1.04)	NM

Source: Company Information and Leerink Partners LLC Research

Revenues in \$MM. GAAP EPS presented. 1Q14 and 2Q14 EPS revised. Quarterly figures may not sum to annual total due to change in shares out. IPO was 8.7.14.

INVESTMENT THESIS

TTOO is a developmental stage manufacturer of a novel detection platform with broad application. Its initial focus is to commercialize instruments and diagnostic tests for sepsis and hemostasis, and the company has received FDA clearance for its first product, a test to detect Candida infection in the bloodstream. TTOO's instruments and tests are based on a unique technology which capitalizes on the magnetic properties of water to detect a broad range of analytes in solution. We believe the market opportunities for TTOO's technology are broad, yet believe the current stock price fairly balances the risks and opportunities at this point.

VALUATION

The median emerging growth tools and diagnostics company currently trades for 4x forward-twelve month revenue. We believe TTOO deserves a premium to the peer group due to its unique, patent-protected technology, large market opportunity, and forecast for faster revenue growth than the peer group. We consider ~6x FTM revenue a fair reflection of these positive attributes, offset by inherent uncertainties over the revenue ramp for TTOO's products. When calculating a 12-month price target, we would normally calculate an enterprise value, using projected levels of debt and cash, that is a multiple of revenue for the twelve months ended Dec-16 (the forward twelve month revenue estimate, twelve months from now). However, for TTOO, we project out a year further given the company's stage in its product curve. Therefore, we apply our revenue multiple of ~6x to our revenue estimate of ~\$114M for the twelve months ended Dec-17 to yield a price of \$28 in two years. We discount that back at a rate of 20% to arrive at a \$23 12-month price target.

RISKS TO VALUATION

The primary risks to our price target for TTOO include, but are not limited to: a slower-than-projected adoption curve for the company's sepsis products, a smaller-than-projected market opportunity for the company's sepsis products, an unforeseen detrimental impact from an evolving competitive environment, regulatory risk, and product development risk.

	2012	2013	Mar-14	Jun-14	Sep-14	Dec-14	2014	Mar-15e	Jun-15e	Sep-15e	Dec-15e	2015e	2016e	2017e
Revenue														
Product	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,000	\$2,375	\$3,375	\$36,450	\$111,000
Other	19	266	0	0	0	119	119	200	300	350	400	1,250	2,000	3,000
Total revenue	19	266	0	0	0	119	119	200	300	1,350	2,775	4,625	38,450	114,000
COGS	0	0	0	0	0	0	0	0	0	0	0	0	19,225	45,600
Gross profit	19	266	0	0	0	119	119	200	300	1,350	2,775	4,625	19,225	68,400
SG&A	2,945	5,022	1,842	2,446	2,984	3,747	11,019	4,871	5,000	5,200	5,400	20,471	30,760	51,300
R&D	11,727	14,936	5,065	4,703	4,803	5,210	19,781	6,773	6,900	7,000	7,200	27,873	28,838	37,620
Operating income (loss)	(14,653)	(19,692)	(6,907)	(7,149)	(7,787)	(8,838)	(30,681)	(11,444)	(11,600)	(10,850)	(9,825)	(43,719)	(40,373)	(20,520)
Interest expense (income)	154	403	86	80	304	251	721	490	496	502	508	1,996	2,126	2,570
Other expense, net	(352)	515	(73)	74	0	(13)	(12)	0	0	0	0	0	0	0
Pretax income	(14,455)	(20,610)	(6,920)	(7,303)	(8,091)	(9,076)	(31,390)	(11,934)	(12,096)	(11,352)	(10,333)	(45,715)	(42,499)	(23,090)
Taxes	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Net income	(\$14,455)	(\$20,610)	(\$6,920)	(\$7,303)	(\$8,091)	(\$9,076)	(\$31,390)	(\$11,934)	(\$12,096)	(\$11,352)	(\$10,333)	(\$45,715)	(\$42,499)	(\$23,090)
Accretion of redeemable preferred	(4,412)	(6,908)	(1,906)	(1,906)	(758)	0	(4,570)	0	0	0	0	0	0	0
Net income applicable to common	(\$18,867)	(\$27,518)	(\$8,826)	(\$9,209)	(\$8,849)	(\$9,076)	(\$35,960)	(\$11,934)	(\$12,096)	(\$11,352)	(\$10,333)	(\$45,715)	(\$42,499)	(\$23,090)
Basic shares outstanding	2,315	2,373	1,412	1,451	12,379	20,042	8,675	20,092	20,142	20,192	20,242	20,167	20,429	20,792
Diluted shares outstanding	2,315	2,373	1,412	1,451	12,379	20,042	8,675	20,092	20,142	20,192	20,242	20,167	20,429	20,792
EPS diluted	(\$6.24)	(\$8.69)	(\$4.90)	(\$6.35)	(\$0.71)	(\$0.45)	(\$4.15)	(\$0.59)	(\$0.60)	(\$0.56)	(\$0.51)	(\$2.27)	(\$2.08)	(\$1.11)
EPS growth														
Sales growth								nm	nm	nm	2231.9%	3786.6%	731.4%	196.5%
Gross margin	100.0%	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	50.0%	60.0%
SG&A % of revenue	15500.0%	1888.0%	nm	nm	nm	3148.7%	9259.7%	2435.6%	1666.7%	385.2%	194.6%	442.6%	80.0%	45.0%
R&D % of revenue	61721.1%	5615.0%	nm	nm	nm	4378.2%	16622.7%	3386.5%	2300.0%	518.5%	259.5%	602.7%	75.0%	33.0%
Operating margin	(77121.1%)	(7403.0%)	nm	nm	nm	(7426.9%)	(25782.4%)	(5722.1%)	(3866.7%)	(803.7%)	(354.1%)	(945.3%)	(105.0%)	(18.0%)
Tax rate	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
D&A	\$571	\$584	\$144	\$0	\$0	\$0	\$144	\$250	\$250	\$350	\$300	\$1,150	\$2,083	\$3,330
EBITDA	(\$14,082)	(\$19,108)	(\$6,763)	(\$7,149)	(\$7,787)	(\$8,838)	(\$30,537)	(\$11,194)	(\$11,350)	(\$10,500)	(\$9,525)	(\$42,569)	(\$38,290)	(\$17,190)
Free cash flow														
Operating cash flow	(\$13,303)	(\$18,053)	(\$5,791)	(\$6,400)	(\$7,508)	(\$11,448)	(\$31,147)	(\$12,448)	(\$11,546)	(\$12,750)	(\$8,712)	(\$45,456)	(\$38,484)	(\$10,719)
CapX	(283)	(513)	(263)	(245)	(531)	(300)	(1,339)	(500)	(500)	(500)	(500)	(2,000)	(5,959)	(11,444)
Free cash flow	(\$13,586)	(\$18,566)	(\$6,054)	(\$6,645)	(\$8,039)	(\$11,748)	(\$32,486)	(\$12,948)	(\$12,046)	(\$13,250)	(\$9,212)	(\$47,456)	(\$44,443)	(\$22,163)

Notes:

Source: Company reports and Leerink Partners estimates

Disclosures Appendix

Analyst Certification

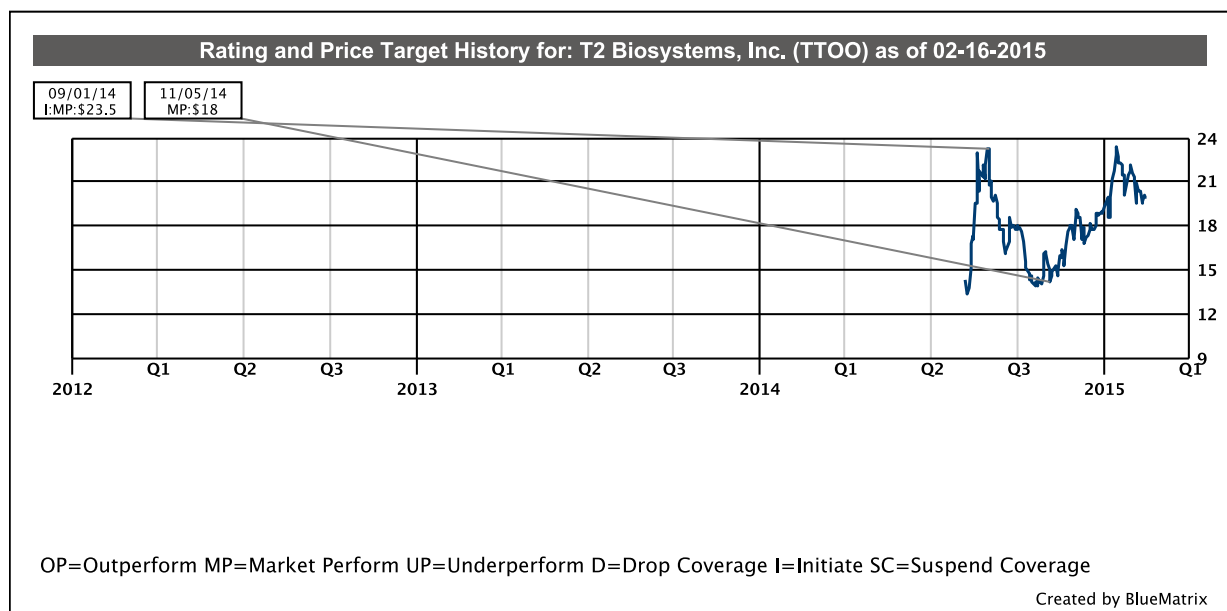
I, Dan Leonard, certify that the views expressed in this report accurately reflect my views and that no part of my compensation was, is, or will be directly related to the specific recommendation or views contained in this report.

Valuation

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Rating	Count	Percent	IB Serv./Past 12 Mos.	
			Count	Percent
BUY [OP]	150	70.00	61	41.00
HOLD [MP]	64	30.00	0	0.00
SELL [UP]	0	0.00	0	0.00

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Outperform (Buy): We expect this stock to outperform its benchmark over the next 12 months.

Market Perform (Hold/Neutral): We expect this stock to perform in line with its benchmark over the next 12 months.

Underperform (Sell): We expect this stock to underperform its benchmark over the next 12 months. The degree of outperformance or underperformance required to warrant an Outperform or an Underperform rating should be commensurate with the risk profile of the company.

For the purposes of these definitions the relevant benchmark will be the S&P 600® Health Care Index for issuers with a market capitalization of less than \$2 billion and the S&P 500® Health Care Index for issuers with a market capitalization over \$2 billion.

Important Disclosures

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Leerink Partners LLC makes a market in T2 Biosystems, Inc.

Leerink Partners LLC has acted as a co-manager for a public offering of T2 Biosystems, Inc. in the past 12 months.

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