Janney CAPITAL MARKETS

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T2 Biosystems, Inc.

TTOO - NEUTRAL

September 10, 2014

Life Sciences Technology

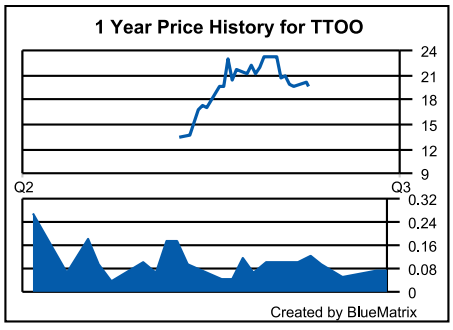
T2 Biosystems, Inc.

(TTOO) - NEUTRAL

Price:	**$19.59**
Fair Value Estimate:	$25.00
52-Week Range:	$11.00-$24.50
Market Cap (MM):	$376
Shr.O/S-Diluted (mm):	19.2
Average Daily Volume:	NA

FYE: Dec	2014E	2015E	2016E
EPS:	$(2.25)E	$(2.00)E	$(1.50)E
Prior EPS:	NC	NC	NC
P/E:	NA	NA	NA
Quarterly EPS:			
Q1	$(4.90)A	$(0.46)E	NA
Q2	$(0.49)E	$(0.48)E	NA
Q3	$(0.41)E	$(0.52)E	NA
Q4	$(0.44)E	$(0.54)E	NA

FYE: Dec	2014E	2015E	2016E
Revenue (M):	$0.2E	$2.1E	$33.4E
Quarterly Revenue (M):			
Q1	$0.0A	$0.1E	NA
Q2	$0.1E	$0.1E	NA
Q3	$0.1E	$0.5E	NA
Q4	$0.1E	$1.4E	NA



Equity Research
Basic Report

Transforming Diagnostic Technology - Initiating Coverage

INVESTMENT CONCLUSION:

We initiate coverage of T2 Biosystems, an innovative *in vitro* diagnostics company that utilizes proprietary magnetic resonance-based technology to rapidly detect a variety of biomarker targets. The company's T2MR technology is 100-1000x more sensitive than traditional PCR-based methods. As a result, the company's technology can reduce the median diagnostic test time from 2-7 days to 4.1 hours, which is vital for reducing patient mortality rates and improving hospital economics. We estimate that hospitals can save as much as $364-$720 net per patient, assuming one test per patient. *Candida* incidence among the high risk patient populous represents a $1.35 billion annual market opportunity. Our fair value of $25 per share is based upon a discounted 5x revenue multiple on FY18 estimated revenue.

KEY POINTS:

- T2's transformative diagnostic technology measures how water molecules react in the presence of magnetic fields, eliminating the need for sample purification. Leveraging this technology, T2 plans to aid in the detection of bacterial and fungal based blood-based infections. Sepsis, a systematic illness caused by bacterial and fungal toxins circulating in the bloodstream, was the most expensive hospital-treated condition in the US during 2013, costing hospitals in excess of $20 billion annually.
- T2 plans to improve patient outcomes by lessening the time needed to perform diagnostic testing. Early indications have shown that through rapid identification of species-specific *Candida* and the prescription of an appropriate antifungal therapy within the first 12 hours can reduce the mortality rate to 10% from above 40% with current blood-culture based technologies. Not only can the rapid prescription of appropriate therapies save lives, but it can also aid in antifungal stewardship and reduce the burden of sepsis on the overall healthcare system. Both are major issues plaguing the US healthcare system.
- T2 Biosystems estimates that hospitals can save $800-$850 per patient by identifying and efficiently treating high risk patients. At an estimated cost of $200 per T2Candida test, the net savings to hospitals would be $600-$650 per patient. Our initial model indicates a cost saving range of $364-$720 per patient with more realistic savings of $629 per patient if all high risk patients are tested with a T2Candida panel. Using our realistic savings estimate, the average top-450 hospital would save $3.1 million per annum by adopting the T2 platform. We anticipate that the market size could be as large as $1.4 billion with $700 million near-term opportunity for the initial T2Candida panel.
- Our released estimates assume only testing revenues from the T2Candida panel and T2Dx instrument sales. T2 is expect to commercialize a T2Bacteria assay in late 2016 or early 2017 and release an instrument and diagnostic test to aid in impaired hemostasis treatment sometime in 2017 or 2018. Our target price of $25 per share is based on a 24% discount rate on a 5x revenue multiple on FY18. The 5x revenue multiple is based on peer group valuations and historical diagnostic acquisitions.

Research Analyst Certifications and Important Disclosures are on pages 18 - 20 of this report

Based in Lexington, MA

COMPANY OVERVIEW

Named after the measurement of the reaction of water molecules in the presence of magnetic fields, T2 Biosystems (T2) is an innovative *in vitro* diagnostics company that utilizes magnetic resonance-based technology to rapidly detect a variety of targets at high sensitivities and specificities. The company's magnetic resonance platform, T2MR, is a novel technology that identifies the existence of molecular targets within samples without time and labor intensive sample preparation. Multi-step purification and extraction workflows are required for traditional approaches like polymerase chain reaction (PCR). Drawing on the company's proprietary intellectual property, T2 Biosystems has developed a fully-automated, sample to result, bench-top instrument, the T2Dx, to detect molecular [DNA, etc] and immunodiagnostic [proteins, etc] targets.

Initially, T2 plans to target life-threatening pathogens associated with one of the leading causes of death in the United State and the most expensive hospital-treated condition, sepsis. According to the U.S. Department of Health and Human Services, sepsis accounts for approximately $20 billion or 5% of total aggregate costs associated with domestic hospital stays. The initial sepsis panel, T2Candida, was submitted in conjunction with the T2Dx to the FDA on May 27, 2014. FDA market authorization typically takes 6-9 months and implies approval by the end of 2014 or early 2015 with commercial sales in 2015. The company plans to supplement its panel offering with the development and launch of a broader sepsis panel, T2Bacteria, sometime in 2017. T2's goal is to lower patient mortality rates, improve patient outcomes, and reduce the overall cost of healthcare by enabling medical professionals to make targeted treatment decisions earlier.

In early 2016, the company plans to augment its sepsis offering by applying the company's unique detection approach to the hemostasis market. T2 expects to launch a fully integrated instrument, the T2Stat, and a corresponding diagnostic panel, the T2HemoStat, capable of quickly performing comprehensive hemostasis measurements. In tandem with the panel, the T2Stat instrument is expected to measure platelet function, clotting time, and clot degradation. T2 anticipates initiating a pivotal clinical trial for T2Stat and T2HemoStat in 1H16. Inclusive of its sepsis and hemostasis products, T2 estimates that its total annual addressable market opportunity is over $3 billion in the United States. The company plans to use existing reimbursement codes to support its sepsis and hemostasis products and does not foresee the need to seek new reimbursement codes.

T2 believes that its products can redefine the standard of care in the blood-based infectious disease and hemostasis markets. Despite the release of automated blood culture machines and iterative improvements in media formulations over the past several years, the bottleneck in infectious disease detection has remained the inherent limitation associated with sufficient culture growth and rapid detection technology. The median time for traditional blood culture can take anywhere from 2-7 days with an additional day-plus for morphologic and biochemical tests to determine speciation. T2's clinical trial demonstrated that its platform can deliver median actionable results within 4.1 hours. T2's novel approach is innovative because it does not require growth medium.

Rapid detection and the implementation of appropriate treatment regimens are vital to improving patient mortality rates. In 2006, a study published in a leading journal, *Clinical Infectious Diseases*, showed that a patient's mortality on the first day of infection is 15% if a therapeutic treatment is initiated. Each successive day that passes without an instituted treatment program, or the continuation of an inadequate therapy, a patient's mortality rate rises to as much as 50% per day. Not only can the T2 platform save lives, but it can also lower healthcare costs by reducing a patient's length of stay and eliminating the liberal use of empiric therapies. In a study published in 2009 in the *American Journal of Respiratory and Critical Care Medicine*, the delay in the administration of an antifungal resulted in: (1) an increase in length of hospital stay of 11 days and additional costs of approximately $30,000 per patient; and (2) promoted inadequate dosing and inappropriate treatment regimens for instances of *C. glabrata* and *C. krusei* that resulted in a 7 day increase in length of stay and $20,000 in costs per patient. Patients with more than one modifiable risk factor saw a marked increase in treatment costs. Modifiable risk factors include: failure to remove a central catheter, hematologic or solid-organ malignancy, extensive surgery or burns, hemodialysis, administration of corticosteroids or chemotherapeutic agents, or a delay in the prescription of antifungals.

MARKET OVERVIEW

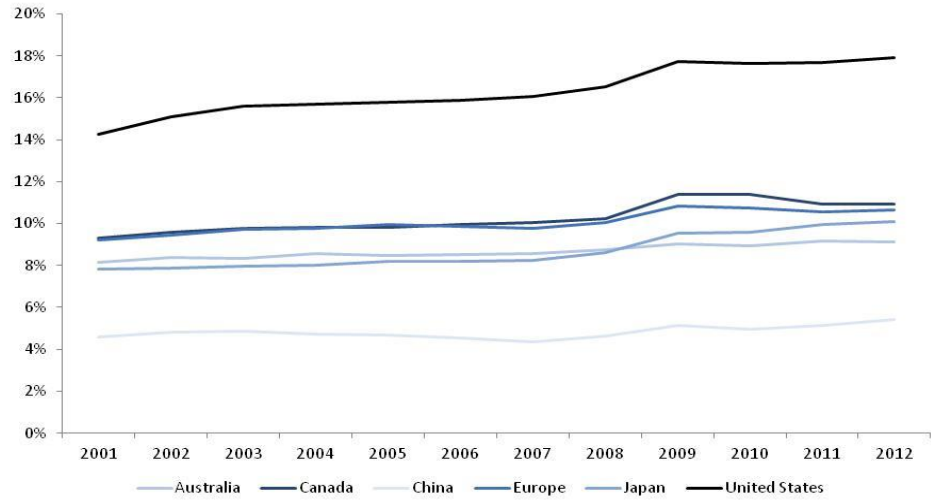
The *American Hospital Association* (AHA) estimates that nearly 35 million people each year are admitted to over 5,000 community and Federal Government hospitals in the United States. Community based hospital expenses have increased to approximately $800 billion per year. Due to a myriad of factors, predominately associated with operating cost inflation and factors limiting patient churn, it is estimated that almost one-third of hospitals lose money on operations.

Healthcare costs account for 17.9% of domestic GDP

Overall hospital operating margins hover in the low-single digit range. One estimate released by the AHA found that domestic hospital margins declined 60 basis points from 4.6% in 1996 to 4.0% in 2006. The recent shift to managed care reimbursement will only put more pressure on hospital margins. Additionally, according to the World Bank, global health expenditure as a percentage of GDP has increased dramatically from 2001 through 2012 (see *Figure 1*). The healthcare share of the United States' gross domestic product accelerated from 14.2% to 17.9%. It is expected that healthcare expenditures will only rise further as baby boomers age over the next few decades. Rapidly identifying patient needs, reducing readmission rates, and improving patient turnover are vital to improving hospital economics.

Figure 1

Total Healthcare Expenditure (% of GDP)



Source: World Bank

T2's initial offering can save a top 450 hospital $2-3 million per year

While initially combating a niche segment of the blood-based infection (BSI) market, adoption and utilization of the T2Dx and T2Candida panel can help to materially improve hospital economics. We estimate that the top 450 hospitals can save $2-3 million per year by effectively monitoring and treating *Candidemia*. T2 Biosystems' stated mission is to "lower mortality rates, improve patient outcomes, and reduce the cost of healthcare by helping medical professionals make targeted treatment decisions earlier." Completed earlier this year, the T2Dx and T2Candida panel pivotal clinical trial, direcT2, demonstrated the ability of the T2 platform to rapidly identify five clinically relevant species of *Candida*, the most common cause of fungal infections. These five types of *Candida* account for over 90% of all fungal-based blood infections.

Sepsis: 30% mortality rate and $20.3bn in annual healthcare costs

Candida is known to cause sepsis, a potentially life-threatening blood infection that causes systematic inflammation and can lead to shock, organ failure, and death. In 2013, the National Institute of General Medical Sciences estimated that sepsis was the tenth leading cause of death in the United States. Accounting for an estimated $20.3 billion per annum in US hospital costs and having a mortality rate of approximately 30%, sepsis is a significant burden on the healthcare system and incidence rates continue to rise with data indicating more than a doubling of *Candida* incidence over the past decade.

According to a September 2010 study published in the *American Journal of Infection Control*, the adult mortality rate for candidemic patients is estimated to be 43%; however, early indications have shown that through rapid identification of species-specific Candida and the implementation of the appropriate antifungal therapy within the first 12 hours, a positive blood culture can reduce the mortality rate to as low as 10%. T2's technology has shown the ability to drastically accelerate the detection and species characterization process.

***Candida's* mortality rate is estimated to be 43%**

Figure 2

Types of *Candidemia*

	Distribution	Mortality Rate	Treatment**
C. albicans	~ 45.0%	~ 40.0%	-azoles, -sine, AmpB, -candins
C. non albicans	~ 55.0%	~ 45.0%	
C. glabrata	10-25%	45.0%	-sine, -candins
C. krusei	1-5%	45.0%	-candins
C. parapsilosis	15-30%	40.0%	-azoles, -sine, AmpB, -candins
C. tropicalis	8-15%	40.0%	-azoles, -sine, AmpB, -candins
C. guilliermondii	NA	NA	NA
C. inconspicua	NA	NA	NA
C. lusitaniae	NA	NA	-azoles, -sine, -candins
Other *Candida* species	1-4%	50.0%	

Bold = five types of *Candida* tested by the T2Candida panel

** **-zoles** = fluconazole, itraconazole, voriconazole, and posaconazole; **-sine** = flucytosine; **AmpB** = Amphotericin B; **-candins** = echinocandin agents [caspofungin, micafungin, and anidulafungin]

Source: Company, *American Journal of Infection Control*, Janney Capital Markets

CANDIDEMIA MARKET – CLINICAL POPULATION

6.75 million patients per year have high risk for *Candidemia*

Using data from governmental agencies like the National Cancer Institute (NCI) and publications on the burden of bloodstream infections, T2 estimates that 15 million patients are tested for blood stream infections annually in the United States. Within that patient populous, 6.75 million are estimated to be high risk for *Candidemia* - 1.75 million immunocompromised and 5 million intensive care unit (ICU) patients. Patients at high risk for *Candidemia* are severely ill patients in the ICU, cancer patients with low white blood cell counts (neutropenia), surgical patients, and premature newborns. Historically, upwards of 40% of these high-risk, severely ill patients are prescribed empiric anti-fungal therapies, $2-360 per day depending upon treatment, as physicians await blood culture results. These prescription patterns not only result in an increased cost burden on hospitals, but they also give rise to antifungal drug resistance.

Inclusive of patients at risk for a bacterial infection, the company's market size is 8.75 million. The company expects to target blood-based bacterial infections with the 2017 release of its T2Bacteria panel for gram-positive and gram-negative sepsis infections. Some research suggests that the patient populous for nosocomial, hospital originating, BSIs could be as high as 2.5-3.1 million people. That would add 500,000 to 1.1 million patients to T2's estimated aggregate *Septicemia* market size.

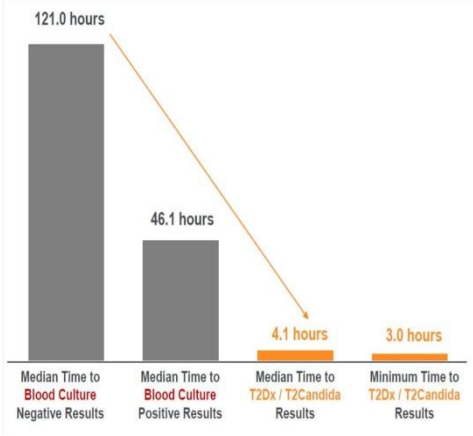
Figure 3

Top 10 blood-based infections

Rank	Pathogen	%	Est. Mortality
1	***Gram-positive bacteria***	66.0	25%
i.	Coagulase-negative staphylococci	30.0	20%
ii.	Staphylococcus aureus	16.0	25%
iii.	Enterococci	12.0	35%
iv.	Streptococci	2.0	25%
v.	Other gram-positive	6.0	25%
2	***Gram-negative bacteria***	26.0	29%
i.	Escherichia coli (E. coli)	6.0	25%
ii.	Klebssiella	5.0	30%
iii.	Enterobacter	5.0	30%
iv.	Pseudomonas	4.0	30%
v.	Serratia	1.0	25%
vi.	Other gram-negative	5.0	30%
3	***Candida***	8.0	43%
Total		100.0	27%

Figure 4

T2's Pivotal Trial Time to Result



Median time to result for T2 platform of 4.1 hours vs. blood-culture's 2-5 days

Source: Janney Capital Markets, Company

CLINICAL DATA AND HOSPITAL SAVINGS

T2 Biosystems' direcT2 clinical trial for the T2Candida panel had an overall sensitivity of 91.1% and overall specificity of 99.4% with a median time to result of 4.1 hours relative to the median time for a positive blood culture test of 46.1 hours and a negative blood culture result in 121.0 hours. The 2-5 day time horizon for positive or negative blood culture result does not include speciation, which can take another several hours to a day. As noted in *Figure 2*, speciation is integral in guiding treatment decisions and the IDSA's 2009 updated clinical practice guidelines recommends the use of echinocandin agents for non-immunocompromised and immunocompromised patients, especially those with recent azole exposure. Echinocandin agents can cost upwards of 2-110x azole treatment regimens so

differentiating between patients that can be treated with azoles vs. candins can save hospitals hundreds to thousands of dollars per patient. The T2 platform is believed to be the only real time technology that can help physicians avoid prescribing broad spectrum treatment regimes unnecessarily and accurately treat those with positive *Candidiasi.*

T2's products are expected to significantly improve the treatment economics for the hospitals. Length of stay, especially extended time in ICUs, accounts for the majority of the increase in costs for patients with *Candidemia*. ICU beds account for less than 10% of total beds in US hospitals but cost 3-5x higher than general population - $3000-4000 vs. $800 per day. Therefore, transitioning patients from the ICU to general ward can mitigate hospital costs and improve profitability. T2 Biosystems estimates that the *Candidemia* incidence rates hover around 2-3% for the 6.75 million high-risk patients so ruling out a fungi infection could allow a patient to be transitioned out of the ICU in a matter of hours or eliminate the need altogether. Some studies point to a mean increase in hospital charges of $30,000-40,000 attributable to *Candidemia*, while another published in *P&T*, a managed care magazine, pointed to total costs exceeding $130,000 in some instances.

Hospital Reimbursement

The evolving reimbursement landscape in the US will be favorable for T2 Biosystems. DRG codes, bundled reimbursement, and managed care models encourage hospitals to mitigate risk and reduce the overall cost burden on the domestic healthcare system. Hospitals are reimbursed based on DRG codes and managed care guidelines. DRGs were created to classify patients and to enable hospitals to identify and track what products and treatments a patient underwent during their stay. DRG codes allow hospitals to stratify patients by their ailments and determine immediately what the reimbursement profile will be for treatment; thereby, encouraging cost control. When incurred expenses exceed DRG-code payments, hospitals have to file for outlier payments. The outlier threshold in 2014 is $21,748, down from $21,821 in 2013. Hospitals can claim outlier payments above the stated DRG if costs exceed the threshold. However, a marginal cost factor of 80% is applied to determine the total payout so the hospital absorbs some of the incremental cost as it files an outlier claim. Therefore, any expenses incurred above the predetermined DRG payment and below the outlier threshold are sunk costs that the hospital has to fully absorb.

The evolution of DRGs and the shift from a fee-for-service based reimbursement to a managed care model over the past decade has changed the way hospitals operate. These changes have encouraged cost scrutiny and incentivized hospitals to perform preventative care to mitigate costs so cost remain within reimbursement profiles. Unlike the prior fee-for-service model, hospital income or physicians' pay is no longer linked to how long a patient stays in a hospital or number of services rendered. Instead, hospitals are incentivized to increase patient turnover and efficiently diagnose and treat patients. Once a patient enters into the hospital, overall disease management and risk mitigation are vital because the hospital incurs the expense, not government or payor, when patient costs exceed predetermined standards. T2's technology can mitigate risk by rapidly recognizing instances of *Candida.*

Figure 5

Treatment Guidelines and associated costs

	Antifungal		Dosage		Cost	ISDA Initial	Daily	14-day cycle	
-azoles	**Fluconazole**	intravenous	400 mg	$	50	800 mg	400 mg	$ 750	*~75% of all instances*
	Fluconazole	oral	400 mg	$	2	800 mg	400 mg	$ 23	*~75% of all instances*
	Effective: C. albicans, C. tropicalis, C. parapsilosis, C. lusitaniae								
	Voriconazole	intravenous	280 mg	$	184	2 x 6 mg/kg	2 x 3-4 mg/kg	$ 5,336	*~75% of all instances*
	Voriconazole	oral	200 mg	$	45	800 mg	400 mg	$ 675	*~75% of all instances*
	Effective: C. albicans, C. tropicalis, C. parapsilosis, C. lusitaniae								
	Amphotericin B	intravenous	70 mg	$	17	0.5-1.0 mg/kg	0.5-1.0 mg/kg	$ 238	*~75% of all instances*
	Amphotericin B Lipid	intravenous	350 mg	$	305	3-5 mg/kg	3-5 mg/kg	$ 4,270	*~75% of all instances*
	Effective: C. albicans, C. tropicalis, C. parapsilosis								
-candins	**Micafungin**	intravenous	100 mg	$	98	100 mg	100 mg	$ 1,372	*~99% of all instances*
	Effective: C. albicans, C. tropicalis, C. parapsilosis, C. glabrata, C. krusei, C. lusitaniae								
	Caspofungin	intravenous	100 mg	$	350	70 mg	50 mg	$ 2,625	*~99% of all instances*
	Effective: C. albicans, C. tropicalis, C. parapsilosis, C. glabrata, C. krusei, C. lusitaniae								

****All mg/kg calculations assume a 70 kg (154 lb adult)****

Source: Janney Capital Markets, ISDA Guidelines

Hospital Savings

Determining the economic savings realized by a hospital is extremely variable as costs per day associated with ICU vs. general ward stays, physician and nurse oversight, and antifungal treatment programs can differ from state-to-state and hospital-to-hospital. What is not in question is that a delay in treatment in relation to the onset of symptoms or inadequate empiric regimens will result in higher total hospital costs. Mortality rates and overall resource utilization drastically increase each day that there is a delay. T2 Biosystems' T2MR platform is a novel solution that can transform how physicians utilize molecular and immunodiagnostic information.

Existing data has shown that hospitals can save several million dollars per year by leveraging T2's rapid identification technology. However, because the company is still pre-revenue and awaiting FDA marketing approval for the T2Dx instrument and T2Candida panel, further publications supporting the value proposition of a rapid identification diagnostic platform would improve T2's visibility. We expect the magnitude of overall cost savings to hospitals to be highly correlated to T2's adoption curve. Preliminary data from IMS Health's economic analysis suggests that prior cost savings may have been underestimated. A favorable report between now and commercialization of T2's platform could generate additional interest, shifting the adoption curve higher. We dive into T2's value proposition because understanding the full scope the costs and net savings to hospitals will be vital for T2's long term growth trajectory.

T2 Estimate

Including costs associated with extended ICU, high dependency, and general ward stays and unnecessary anti-fungal prescriptions, T2 Biosystems estimates that hospitals can save $800-$850 per high risk patient by quickly identifying and adequately treating the candidemic patient population. Assuming that all high risk patients are ordered a T2Candida panel at $200 per test, the net savings per patient to a hospital would be $600-650. The company estimates that about 25% of the savings, $1.32 billion, will result from hospitals treating only patients that test positive for *Candidemia*, and the delta, north of $4 billion, will come from $30,000 in savings per patient from a reduced length of stay at the hospital. Not included in these estimates are savings associated with the reduction in readmission rates, reimbursement penalties, and prophylaxis.

Our Model

After creating our own model and running a cost/benefit analysis, we estimate hospital savings of $564-$920 per patient; net savings to the hospital after running a T2Candida panel would be $364-$720 per patient ($2-3 million per top 450 per year). Our base case model suggests savings per patient of $829 or $629 net to the hospital, in-line with T2. However, we believe that the savings are more equitable, 54% coming from length of stay and labor reductions and 46% from prescribing fluconazoles instead of echinocandins and eliminating unnecessary empiric treatment programs. Our model implements the ISDA's recommended guidelines: (1) 14-day treatment program; (2) physicians prescribe echinocandins for immunocompromised (neutropenic) and seriously ill (nonneutropenic) patients; and (3) fluconazoles can be prescribed to moderately severe to severely ill patients who have no recent azole exposure. Therefore, in a rational world, physicians should prescribe echinocandins to high-risk patients because there are limited known instances of resistance. Prescribing a $1,000-2,000 treatment program makes more sense than incurring $20,000 to $30,000 in additional costs because physicians delay or implement inadequate treatment regimens. Based on the company's stated $500 in therapy savings, we backtrack using our estimate cost of treatment to determine patient stratification.

Janney: Worst Case

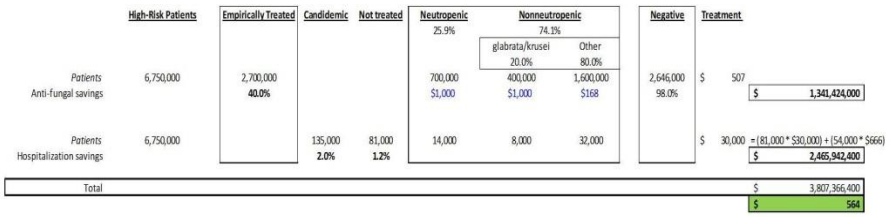
Our worst case savings estimate of $564 per patient assumes that all treating physicians adhere to ISDA guidelines and prescribe an empiric therapy regimen when a patient is suspected of having *Candidemia*. Therefore, the majority of the cost burden would be the 60% of high risk patient population who were not prescribed an empiric therapy.

We assume a 14-day echinocandin regimen costs $1,000 in total, below the low end of our contrived ranges, and the average fluconazole regimen to cost $168 (80% oral; 20% intravenous). Not all of the 135,000 candidemic patients who fall within the high-risk category will cost hospitals $30,000 because ISDA guidelines outline how physicians should treat symptomatic patients awaiting blood culture results. Of the 40% high-risk who are already prescribed empiric therapies, we assume that physicians err on the side of caution and

only prescribe echinocandins; this is likely not the case in reality, but studies have shown that inadequate therapies can cost nearly as much as deferred treatment, upwards of $20,000 per patient. As a result, through leveraging T2's rapid T2MR technology to detect incidence of *Candidemia* and morphology in less than 4 hours, hospitals would save an additional $564, net $364, per high-risk candidemic patient in our worst case model. The data can be seen in *Figure 6* below: (1) physicians over-prescribe the more effective and expensive treatment regimen to reduce long term patient costs; and (2) *Candida* incidence rate among the high-risk population of 2% and conservative therapeutic treatment regimen costs.

Figure 6

Worst case model: Cost savings per patient



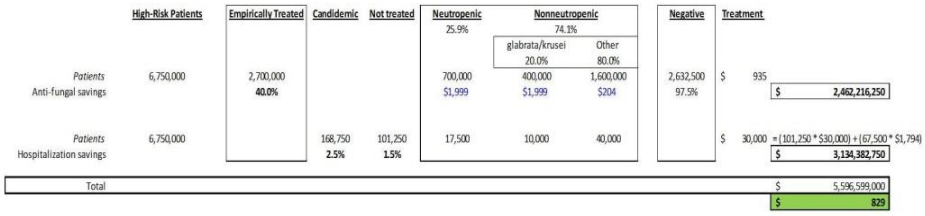
Source: Company, *American Journal of Infection Control*, Janney Capital Markets

Janney: Base Case & Top-end

For our base case model, we assume a 2.5% incidence rate, echinocadin cost at the midpoint of our estimate cost range, and a 75%/25% split oral vs. intravenous for fluconazole prescriptions, our cost savings to the hospital is $829 per patient.

Figure 7

Cost savings per patient at a 2.5% incidence rate



Source: Company, *American Journal of Infection Control*, Janney Capital Markets

At the top end, 3% incidence rate and keeping the same foundational assumptions as we did for the 2.5%, our cost savings model suggests $920 per patient.

Model Conclusion

T2's cost savings model is important to understanding the long term growth potential of the company. We are currently modeling for only one T2Candida panel per patient at a cost of $200. Traditionally, two blood cultures are performed; one initially and one to confirm the eradication of a blood-based infection. Hospitals generally will only adopt a new technology if it provides them with favorable economics, often more than 50%. Therefore, at a base case savings estimate of $829 per patient, we believe that hospitals will still adopt the T2 platform if they expect to run two panels per patient. Total net savings to the hospital would still be $429 per patient when running two tests.

We estimate that 55-60% of total cost savings will come from a reduction in expenses associated with the length of stay and lesser time spent in ICUs. Identifying and treating candidemic patients in first 12 hours can push mortality rates below 10% and reduce length of stay in the range of 10-20 days. All indications point to T2 pricing its *Candida* panel at $200 per test, which would imply a base case cost savings of $629 in cost savings per high risk patient, or $3.15 million in annual savings for the top 450 hospitals. An independent study of 25 microbiology lab directors demonstrated a willingness on average to pay $241 for the T2Candida panel based on described performance characteristics of 90% sensitivity and 95% selectivity. Above and beyond our estimated savings, hospitals could also see improved profitability due to high general ward and ICU turnover rates.

While cost savings are a fundamental input to aid in determining hospital adoption, another component, antibiotic resistance, is just as important to hospital stewardship committees. The ability of T2's platform to quickly aid physicians in implementing the proper treatment regimen will significantly reduce the use of ineffective and unnecessary antimicrobial

therapies to combat sepsis. The U.S. Centers for Disease Control and Prevention (CDC) recently called antimircrobial resistence "one of our most serious health threats." The CDC considers the increasing incidence of *Candida* infections due to azole- and echinocandin-resistant strains a "serious" threat. It has been estimated that annually two million people in the US acquire life-threating infections that are resistant to one or more antimicrobial therapies, and tens of thousands of these people die as a result of infection resistence.

T2MR TECHNOLOGY

The T2 Magnetic Resonance platform, T2MR, is a miniaturized, magnetic resonance-based technology that measures how water molecules react in the presence of magnetic fields, eliminating the need for sample purification. T2MR deploys nanoparticles with magnetic properties to enhance the magnetic resonance of specific targets. The nanoparticles then bind and cluster when target-specific binding analytes are added to the sample. The magnetic resonance signal becomes altered as the clustering changes the microscopic environment in the sample, indicating the presence of the target.

Time consuming and labor intensive steps like sample purification and target extraction are eliminated with the T2MR technology because sample noise does not alter the magnetic resonance signal. Because of T2MR's unique approach to target identification relative to highly laborious and complex PCR-based methods, the platform can detect significantly lower limits of detection, 1 CFU/mL, compared to the 100-1000 CFU/mL required for PCR; T2MR is believed to be the only technology on the market that can enable detection of sepsis at levels as low as 1 CFU/mL. T2MR can also enable rapid detection of pathogens, biomarkers, abnormalities in whole blood, plasma, serum, saliva, and urine, and cellular targets. The technology has the potential broaden outside of the *in vitro* diagnostics market and into environmental, food safety, industrial, and veterinary applications.

Figure 8

Representation of target analyte binding

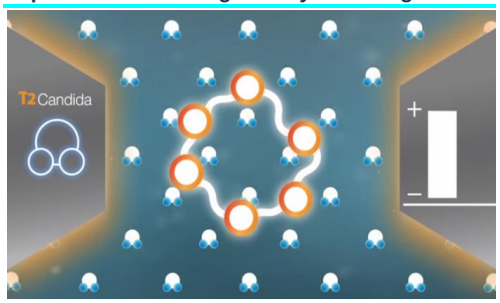
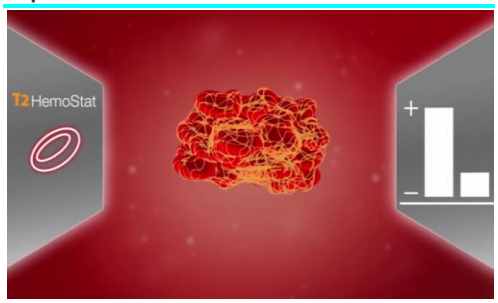


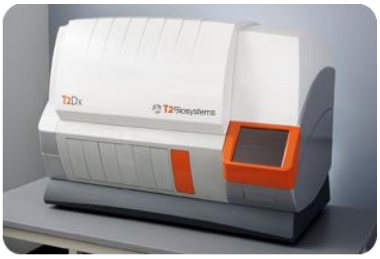
Figure 9

Representation of clot formation



Source: Company

Leveraging the T2MR technology, T2 Biosystems developed the T2Dx, a fully automated, sample-to-result, bench-top instrument capable of running a broad range of diagnostic tests. Simple and easy, a patient's sample tube is snapped onto the company's novel disposable test cartridge, which is pre-loaded with all the necessary reagents and inserted into the T2Dx. The instrument processes the sample and delivers a diagnostic test result. T2's initial panels for the T2Dx, the T2Candida and T2Bacteria, will aid in identifying life-threatening blood-based pathogens associated with sepsis. The T2Dx and T2Candida panel have undergone a pivotal clinical trial and were submitted to the FDA for market authorization on May 27, 2014. T2's goal is to launch the T2Dx and T2Candida panel in 1H15. The T2Bacteria panel is expected to undergo its own clinical trial in the back half of 2015.



T2BACTERIA

Bacteremia

Septicemia is a growing systemic illness that is cause by bacterial and fungal toxins circulating in the bloodstream. According to the National Center for Healthcare Statistics, hospital stays due to *Septicemia* has more than doubled over the last decade. In a 2013 report, the U.S. Department of Health and Human Services stated that sepsis is the most expensive hospital-treated condition, costing hospitals in excess of $20 billion annually. To put the burden into context, the annual cost is nearly double that of heart attacks. It has been

estimated that nearly one out of every 23 patients has *Septicemia*, and there are 4,600 new patients on average treated daily in the US. These estimates translate into over 1.6 million people diagnosed with sepsis each year, of which approximately 500,000 patients per year die in the US because of complications associated with sepsis. In a report done by the Agency for Healthcare Research and Quality, it was estimated the costs due to sepsis grew almost three times the rate of costs for hospital stays overall between 1997 and 2008. Annual sepsis costs have grown on average 11.9% relative to overall cost increases of 4.4%, primarily due by longer hospital stays per patient and higher costs per stay.

T2 Biosystems estimates that 1.35 million of the 1.6 million patients diagnosed with sepsis annually are at high risk of infection. Sepsis most commonly aflicts immunocompromised, citical care, or elderly patients and has a mortality rate of 30%. Sepsis is typically caused by baterial, gram-positive or gram-negative, or fungal, *Candida*, infections. Like *Candida*, rapid detection and species identification is vital for effective treatment of *Bacteremia*. According to a study published in *Critical Care Medicine* in 2006, administration of an effective antimicrobial therapy within the first hour of detection in patients with documented hypotension resulted in a survival rate of nearly 80%. For every hour delay in the initiation of a treatment beyond the first six hours of hypotension, a patient's survival rate decreased by 7.6%. Patients that remained untreated for greater than 36 hours had a survival rate of 5%.

The current treatment for detecting and identifying *Bacteremia* begins with a blood culture. It typically takes 2-5 days to determine if a pathogen is present in a patient's blood. Then, if positive, it can take a few hours to an additional day-plus to identify speciation. Because of *Bacteremia*'s high morbidity and mortality rates, almost all patients are rapidly treated with broad spectrum antibiotics. It has been estimated that 40% of patients do not respond to initial treatments because broad spectrum antibiotics do not treat all types of bacterial infections. Some types of infections require more targeted drugs.

More rapid identification technologies are required to change the standard of care. T2 Biosystems believes that their T2MR technology in addition to a targeted bacteria panel could solve the existing problems by rapidly identifying, with high sensitivity and specificity, bacterial infections. Leveraging T2's platform, the company believes that it can aid physcians in perscribing effective, targeted therapeutic treatmens for inflicted patients; thus, saving lives and reducing overall hopsitalization costs.

T2Bacteria

T2 is currently developing a bacteria panel to detect gram-positive and gram-negative bacteria pathogens associated with sepsis. We believe that a full suite bacteria assay will be vital for the company's long term value proposition to hospitals because it would remove the need to perform a broad based blood culture tests for symptomatic patients. Without a full suite, hospitals would still likely need to run both. There are 25 major bacteria pathogens, including E. coli, staphylococcus, streptococcus, listeria, and salmonella. The company plans to run its T2Bacteria panel on its proprietary T2Dx instrument. T2 estimates that the second panel will broaden its patient population size to 8.75 million patients: 6.75 million high-risk and 2 million emergency room patients. The company expects to begin clinical trials for the T2Bacteria panel in 2H15.

Hemostasis

Another area of unmet clinical need that can be addressed using T2MR technology is point of care diagnosis and clinical management of hemostasis, a life-threatening condition where a patient is unable to promote the formation of blood clots to stabilize excessive bleeding. Hemostasis is often hard to achieve when a patient is under considerable shock or stress, which is usually the case in emergency and ICU hospital settings. Active monitoring and combating impaired hemostasis is grave and extremely time sensitive for level 1 and 2 trauma patients. According to the *Journal of the American College of Surgeons*, mortality rates for trauma patients with impaired hemostasis can be reduced from 45% to 19% with a more rapid delivery of therapy.

Diagnostic results are required in fewer than 30 minutes to aid clinicians in making the most effective treatment decisions; however, physicians lack a rapid diagnostic option so they generally are forced to make treatment decisions for coagulopathic patients with little analytic support. This reality has led to liberal use of clotting factors and invaluable blood resources; nevertheless, there is a fine line because patients can go almost instantly from hypo- to hypercoagulation. This opposite extreme can result in strokes or heart attacks. Trauma patients are the most expensive in the first 36 hours of hospitalization so there is a

need for faster test providing a full analytical view in less than 30 minutes. Both trauma surgeons and hospital blood bank officials would champion a timely and accurate analytical platform because it would save lives, decrease unnecessary blood component utilization rates, and reduce the cost burdens on hospitals as payors continue to transition from fee-for-service to a bundled payment model.

Applying a rapid results technology like T2MR to monitor hemostasis could completely revolutionize how patients are treated. Current methods, thromboelastography (TEG) and rotational thromboelastometry (ROTEM), can take anywhere from 30 minutes to an hour-plus, too long to wait for most trauma and ICU doctors. An almost real-time option would transform the industry. T2 Biosystems' T2Stat and T2HemoStat platform is designed to provide hemostasis measurements in under 20 minutes. The T2HemoStat panel measures clotting time, platelet activity, and clot contraction and lysis, enabling physicans to comprehensive diagnostic data to leverage when making treatment decisions. T2's instrument, the T2Stat, is believed to be the first, fully integrated instrument – traditional methods require five machines – capable of performing hemostasis measurements. The company expects to begin a pivotal clinical trial for the T2Stat and T2HemoStat in 1H16.

T2 estimates that the trauma portion of the broader impaired hemostasis patient populous is over three million individuals per annum domestically. These patients are tested on average three times per trauma episode, translating into 9 million tests. Some studies suggest that 25% of trauma patients have impaired hemostasis, but many go undetected and untreated during initial hospitalization. The company believes that swift, targeted treatment of trauma patients could reduce hospital stays by nearly 20%, save the US healthcare system $2 billion per year, and lessen the waste of invaluable blood products. Based on the estimate of approximately 9 million tests per year, T2 Biosystems believes that this unmet need represents a $500 million market opportunity.

Other potential markets

T2 has evaluated the ability of its T2MR technology to aid in the identification of pathogens and biomarkers in other areas that could potentially have clinical utility. While we don't expect any major annoucements in the near-term, there is potential for T2 to expand its portfolio organically into other fields. There are early indications that the platform could be leveraged to bridge into other areas like thrombosis, pathogenic biomarker detection in cerebral spinal fluid, and blood-based liquid biopsies. There was a article recently in the journal, *Blood*, that highlighted the potential of T2MR to identify a new clot structure that has the potential to as a biomarker to prodive actionable information to aid doctors in monitoring and treating coagulopathic patients that have a high likelihood of a heart attack or stroke. The T2MR is extremely promising and could even enable the detection and identification of circulating tumor cells. The heterogeneity of tumor cells makes it extremely difficult for traditional molecular diagnostic technologies to observe tumor cells with high sensitivity and specificity; T2's T2MR technology could help bridge the gap.

Competitors

The infectious disease diagnostics market is a very competive arena. There are several companies that provide traditional blood culture-based diagnostic products, including: Becton Dickenson and bioMerieux. There are others, bioMerieux, Bruker, Cepheid, Nanosphere, and Siemens, that offer assays for post-culture identification using both moleculare and non-molecular approcahes. However, T2 Biosystems believes that its T2MR technology has a unqiue value proposition that should aid in supporting accelerated adoption as it the only technology that can potentially identify pathogens associated with bloodstream infections in unpurified patient samples at limits as low as 1 CFU/mL.

Bruker's MALDI-TOF Biotyper CA system is an easy to use, cheap alternative to traditional microbial identification options. While the technology is fast and can group *Candida* species almost immediately, the MALDI mass spectrometer requires researchers and clinicans to follow particular sample prep propocols and obtain concentration thresholds for identification. Therefore, Bruker's MALDI technology only reduces the time for speciaition identification post-culture. All of T2's post-culture competitiors rely on a positive result from blood culture in order to perform their tests, which can take multiple days of incubation to meet concentration thresholds.

In the impaired hemostasis market, the company competes with Alere's INR monitoring systems, Beckman Coulter's hematology instruments, Haemonetics's TEG, and Rotem Industries (ROTEM). T2's HemoStat product has the potential to be the only real time

analytic platform for treatment of coagulopathy. Similar to the blood-based infections market, there are several small players that could emerge as an intriguing alternative to traditional approaches.

Earnings Model, Balance Sheet, Valuation

Earnings Model and Balance Sheet

We assume $240 million in revenues by 2018

The foundation of our model is based on a waterfall analysis of T2's sales force. We estimate that the company will have 4 sales representatives at the end of 2014, 16 sales people at the end of 2015, 29 in 2016, and 39 in 2017. Each rep will penetrate 6-8 accounts per annum initially and add an incremental 0-2 per year to their annualized rate once the T2Bacteria panel is commercially released in the first half of 2017. We are modeling for T2 to close 27 accounts by the end of 2015, 151 in 2016, and 356 in 2017. The company plans to target the top 450 domestic hopsitals first, which average over 5,000 high-risk patients each year who present with symptoms. Approximately 100-150 patients per 5,000 will be candidemic, suggesting a 2-3% incidence rate. However, in some trauma burn centers, transplant ICUs, and medical ICUs that attack rate in high risk patients can be as high as 10%.

We anticipate T2 sales reps to target the top 100 US-based hospitals and add lower tier hospitals as penetration rates accelerate. It is estimated that the top 100 domestic hospitals average over 8,000 high-risk patients per year. Applying a conservative 6 quarter ramp in test utilization per hospital, we are expect total T2Candida tests sold to be 7,750 in 2015, 153,000 in 2016, and 596,000 in 2017. Based on a conservative estimate of one test per patient, our 596,000 test estimate would represent a 8.8% market share for T2 amongst the 6.75 million high risk population. We anticipate the T2Bacteria panel to be commercial by 2017, but we do not include revenues from the assay nor incremental instrument additions because of uncertainty surrounding timing and limited clarity regarding the scope of the bacteria panel. We believe that it is imperative that the company launches a bacteria panel that can detect and identify the primary gram-positive and gram-negative bacteria as these types of infections account for approximately 92% of all blood-based infections. Being able to offer rapid detection of a full suite of nosocomial infections will augment the company's existing value proposition and likely lead to accelerated adoption rates because it could enable hospitals to forego traditional blood cultures in certain instances. T2 estimates that the T2Bacteria panel will add an additional 2 million in patients to T2's target market. We assume a more conservative 3,000 patients per top 450 hospital or 1.4 miillion patients in our T2Bacteria model.

Our instrument waterfall model draws on the same sales rep model. We expect each penetrated hospital to initally purchase one instrument and purchase a subsequent instrument six months later to augment the first instrument. Contingent the timing of the bacteria panel release and the product's detection capabilites, we believe that hospitals could add an incremental T2Dx to support the increased utilization; as visibility improves we will adjust our assumptions. While demand out of the gate might be for a higher percentage of outright instrument purchases verses reagent rentals, we expect the split of rentals to direct models over time to hover around 4:1. We anticiapte the instrument to be priced around $80,000 and T2Candida and T2Bacterial assays to sell for $175 per test under a direct agreement and $200 per test for reagent rental models.

We forecast T2 to report total revenues of $2.1 million in 2015, $33.4 million in 2016, and $122.6 million in 2017. Our model assumes diagnostic/instrument revenue mix of 66%/24%, 90%/9%, and 95%/5%, respectively, in 2015, 2016, and 2017. Other revenues, primarily associated with grant funding, account for the remaining composition of our annual sales estimates. We expect T2 to be EBIT positve in 2018. Our assumptions are based on a robust annualized growth and diagnostic and instrument gross profit margins that can make steady incremental improvements and normalize in the mid-70s and low-to-mid 50s, respectively, by 2018.

Our model suggests that the 3Q14 capital raise should support the company's cash needs until mid-to-late 2016. The company stated that it plans to use $29 million of the net proceeds from the capital raise to fund research and development programs to broaden applications utilizing the T2MR technology; $22 million to obtain FDA market authorization and support the commcericalization of the T2Dx and T2Candida products; and the balance to fund general and administrative expenses, capital expenditures, and repayment of debt. Several factors could delay the company's need to seek out additional capital in 2016/2017:

- More rapid adoption curve than we are currently modeling;

- Physicians order mutliple T2Candida tests per patient. We are currently modeling one test per patient. Traditionally, patients with a confirmed blood-based infection undergo multiple cultures: 1) initial determination; 2) confirm the erradiciation of *Septicemia* – therapeutic agents can cause false negative results with existing technologies;
- Fewer hurdles to the T2Bacteria or T2Stat and T2HemoStat commercialization;
- International expansion into Europe and Asia - there are over 18 million cases of sepsis diagnosed worldwide and an estimated 5 million assocaited mortalities;
- Or major collborations with leading institutions or governmental agencies that result in higher utilization rates.

Valuation

Our valuation approach places a revenue multiple on the company to determine the fair market value. We get to our fair value estimate of $25 per share by placing a 5x revenue multiple on our FY18 core – T2Candida and T2Dx – sales estimate of $239.5 million and applying a discount rate of 24% to account for the early stage of T2's commercial rollout. We believe that a discount rate of 24% accounts for the inherent risk associated with investing in a novel, pre-revenue diagnostic company. The ability of the company's platform to lower patient mortality rates, improve patient outcomes, and reduce the overall cost of healthcare should support brisk adoption.

The evolution of DRGs and the shift from a fee-for-service based reimbursement to a managed care model over the past decade has changed the way hospitals operate. Recent changes have encouraged cost scrutiny and incentivize hospitals to perform preventative care to mitigate costs. The value proposition of T2Biosystem's T2MR technology is what differentiates the company from its peers. We believe this reality and the potential for the platform to bridge into other areas like thrombosis, pathogenic biomarker detection in cerebral spinal fluid, and blood-based liquid biopsies make it a likely acquisition if the company is able to demonstrate clinical demand.

Risks

There are inherent risks in investing in a pre-revenue company like T2 Biosystems. While we are intrigued by T2's prospects, our revenue estimates are based on penetration rates, and any delays in product adoption could considerably change our assumptions. Major risks for T2 Biosystems include:

- Obtaining a FDA market authorization and regulatory approval from foreign agencies will be essential for the company. T2 has already submitted its T2Dx and T2Candida products for review. A delay in approval or an unfavorable ruling would drastically change our revenue ramp assumptions.
- Some hospitals may defer purchasing T2's product offerings until the company has a broader portfolio. Major hospital investments are often approved by purchasing committees. At times, these committees can take longer than expected to come to a consensus.
- Cash burn could be an issue for the company over the next several years. We estimate that T2 will be EBIT positive in 2018. A failure by the company to successfully commercialize of the T2Dx, T2Candida, and other potential diagnostic product candidates, whether due to weaker than expected demand, product launch delays, new competitor product launches, or unforeseen circumstances, could force the company to seek additional funds via capital markets or a bridge loan. There is no certainty that the company will be successful in raising additional funds.
- T2's accumulated deficit of $98.1 million as of March 31, 2014 will increase from current levels. The company incurred net losses of $20.6 million in 2013 and $6.9 million in 1Q14. We anticipate losses to accelerate over the next several months as the company invests in sales and marketing resources ahead of its anticipated FDA marketing approval over the next several months. In addition, as product sales ramp the company will need to build inventory and increase working capital.

Management

John McDonough, President and Chief Executive Officer

John McDonough has served as President and Chief Executive Officer and a member of T2 Biosystems' board of directors since November 2007. Previously, from 2003 to 2007, Mr.

McDonough held several progressive leadership positions at Cytyc Corporation; ultimately Mr. McDonough served as President of Cytyc Development Corporation prior to his departure. Mr. McDonough received his B.S.B.A. from Stonehill College.

Marc Jones, Chief Financial Officer

Marc R. Jones has served as Chief Financial Officer of T2 Biosystems since April 2013. Previously, January through March 2013, Mr. Jones served as that Chief Financial Officer at Crashlytics until it was acquired by Twitter. Mr. Jones was Chief Financial Officer of Fluidnet from January 2012 to January 2013. Prior to his time at Fluidnet, Mr. Jones was the Chief Financial Officer of CHiL Semiconductor from June 2007 until its acquisition by International Rectifier in August 2011. Mr. Jones received an M.S. in finance from Northeastern University and a B.S. in economics and finance from Southern New Hampshire University.

Sarah Kalil, Chief Operating Officer

Sarah Kalil has served as T2Biosystem's Chief Operating Officer since August 2013. Previously, from August 2010 to August 2013, Ms. Kalil was the Chief Operating Officer of Interlace Medical. From April 2009 through August 2010, Ms. Kalil was President and Chief Operating Officer of Boston Endo-Surgical Technologies. From 2002 to 2009, Ms. Kalil served as the Operations Director of Innovend. Ms. Kalil is a member of the Massachusetts General Hospital Cancer Patient and Family Advisory Council, and she is on the board of the Pleiades Foundation. Ms. Kalil received a B.S. in engineering from the University of Vermont.

Thomas Lowery, Ph.D., Chief Scientific Officer

Thomas J. Lowery, Ph.D., has served as T2Biosystem's Chief Scientific Officer since September 2013. Previously, Dr. Lowery has held various technical leadership roles in the assay, methods, reagents and detector development programs at T2 since 2007. Prior to joining the company, Dr. Lowery conducted research at the University of California Berkeley focused on developing innovative magnetic resonance based biosensors for molecular imaging. Dr. Lowery received a Ph.D. in chemistry from the University of California, Berkeley and a B.S. in biochemistry from Brigham Young University.

Michael Pfaller, M.D., Chief Medical Officer

Michael A. Pfaller, M.D., has served as T2 Biosystems' Chief Medical Officer since March 2014. Prior to joining the company, Dr. Pfaller spent almost nine years as a consultant to JMI Laboratories. From 1983 to 2005, Dr. Pfaller was Clinical Director of Clinical Microbiology Laboratory at the University of Iowa, and the Interim Director of Clinical Laboratories from 1984 to 1985. Mr. Pfaller serves as the Co-Editor in Chief of the American Society for Microbiology Manual of Clinical Microbiology, 11th edition, and as a co-editor of the 8th edition of Medical Microbiology. Dr. Pfaller received an M.D. from the Washington University School of Medicine and a B.A. in chemistry from Linfield College.

T2 Biosystems (TTOO)
Annual Income Statement

Paul Knight
Janney Capital Markets
212.888.2696

($ in millions, except per share data)

FY-ending Dec 31,	2012	2013	2014E					2015E					2016E	2017E	2018E
	2012	2013	1Q14	2Q14E	3Q14E	4Q14E	2014E	1Q15E	2Q15E	3Q15E	4Q15E	2015E	2016E	2017E	2018E
Diagnostics	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.3**	**$ 1.1**	**$ 1.4**	**$ 29.9**	**$ 116.1**	**$ 231.0**
Instruments	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.1**	**0.1**	**0.3**	**0.5**	**3.1**	**6.0**	**8.1**
Other	0.0	0.3	0.0	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.2	0.4	0.4	0.4
Total Revenues	**$ 0.0**	**$ 0.3**	**$ 0.0**	**$ 0.1**	**$ 0.1**	**$ 0.1**	**$ 0.2**	**$ 0.1**	**$ 0.1**	**$ 0.5**	**$ 1.4**	**$ 2.1**	**$ 33.4**	**$ 122.6**	**$ 239.5**
Consensus Estimate 09-08-14												~1.5-2.0			
Diagnostics COGS	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.2	$ 0.8	$ 1.0	$ 12.0	$ 40.7	$ 57.8
Instruments COGS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.4	1.7	3.0	3.6
T2Dx	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.4	1.7	3.0	3.6
T2Stat	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	0.0
Total cost of sales	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	1.0	1.4	13.6	43.7	61.4
Gross Profit	**$ 0.0**	**$ 0.3**	**$ 0.0**	**$ 0.1**	**$ 0.1**	**$ 0.1**	**$ 0.2**	**$ 0.1**	**$ 0.1**	**$ 0.1**	**$ 0.4**	**$ 0.6**	**$ 19.7**	**$ 78.9**	**$ 178.1**
Gross Profit Margin	**100.0%**	**100.0%**	**#DIV/0!**	**100%**	**100%**	**100%**	**100.0%**	**100%**	**57.9%**	**31.4%**	**26.6%**	**31.3%**	**59.1%**	**64.4%**	**74.4%**
Diagnostics GM										25.0%	25.0%	25.0%	60.0%	65.0%	75.0%
Instrument GM									25.0%	20.0%	20.0%	20.6%	45.0%	50.0%	55.0%
								Ramping manufacturing utilization (16-17: Full)							
		$ 1.3													
R & D Expenses	11.7	14.9	5.1	5.0	5.5	5.8	21.4	5.5	5.6	6.0	6.2	23.3	26.0	35.0	45.0
S G & A Expenses	2.9	5.0	1.8	2.0	2.5	2.8	9.1	3.4	3.8	4.2	4.6	16.0	25.0	56.0	88.2
Operating Income	**$ (14.7)**	**$ (19.7)**	**$ (6.9)**	**$ (6.9)**	**$ (7.9)**	**$ (8.5)**	**$ (30.3)**	**$ (8.9)**	**$ (9.3)**	**$ (10.1)**	**$ (10.4)**	**$ (38.7)**	**$ (31.3)**	**$ (12.1)**	**$ 44.9**
Operating Margin	**-77121%**	**-7403%**	**#DIV/0!**	**-9233%**	**-10567%**	**-11367%**	**-13459%**	**-17700%**	**-8188%**	**-2121%**	**-737%**	**-1884%**	**-93.8%**	**-9.9%**	**18.7%**
Interest Income	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	0.0
Interest Expense	(0.2)	(0.4)	(0.1)	0.0	0.0	0.0	(0.1)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other Income (expense)	0.4	(0.5)	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pretax Income	**$ (14.5)**	**$ (20.6)**	**$ (6.9)**	**$ (6.9)**	**$ (7.9)**	**$ (8.5)**	**$ (30.3)**	**$ (8.9)**	**$ (9.3)**	**$ (10.1)**	**$ (10.4)**	**$ (38.7)**	**$ (31.3)**	**$ (12.1)**	**$ 44.9**
Income Taxes / (Benefit)	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	15.7
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%	35.0%
Net Income Operating	**$ (14.5)**	**$ (20.6)**	**$ (6.9)**	**$ (6.9)**	**$ (7.9)**	**$ (8.5)**	**$ (30.3)**	**$ (8.9)**	**$ (9.3)**	**$ (10.1)**	**$ (10.4)**	**$ (38.7)**	**$ (31.3)**	**$ (12.1)**	**$ 29.2**
Extraordinaries (After Tax)	(4.4)	(6.9)	(1.9)	0.0	0.0	0.0	(1.9)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net Income GAAP	**$ (18.9)**	**$ (27.5)**	**$ (8.8)**	**$ (6.9)**	**$ (7.9)**	**$ (8.5)**	**$ (32.2)**	**$ (8.9)**	**$ (9.3)**	**$ (10.1)**	**$ (10.4)**	**$ (38.7)**	**$ (31.3)**	**$ (12.1)**	**$ 29.2**
Diluted Operating EPS	**$ (6.24)**	**$ (8.69)**	**$ (4.90)**	**$ (0.49)**	**$ (0.41)**	**$ (0.44)**	**$ (2.25)**	**$ (0.46)**	**$ (0.48)**	**$ (0.52)**	**$ (0.54)**	**$ (2.00)**	**$ (1.50)**	**$ (0.56)**	**$ 1.30**
Diluted GAAP EPS	(8.15)	(11.60)	(6.25)	(0.49)	(0.41)	(0.44)	(2.39)	(0.46)	(0.48)	(0.52)	(0.54)	(2.00)	(1.50)	(0.56)	1.30
Consensus Estimate 09-08-14															
Diluted Shares Outstanding	2.3	2.4	1.4	14.0	19.2	19.3	13.5	19.3	19.3	19.3	19.4	19.3	20.9	21.8	22.4

Source: Company reports, Janney Capital Markets estimates, Capital IQ

09/08/14

T2 Biosystems (TTOO)
Annual Cash Flow Statement

Paul Knight
Janney Capital Markets
212.888.2696

($ in millions, except per share data)

FY-ending Dec 31,	2012	2013	2014E					2015E					2016E	2017E	2018E
	2012	2013	1Q14	2Q14E	3Q14E	4Q14E	2014E	1Q15E	2Q15E	3Q15E	4Q15E	2015E	2016E	2017E	2018E
Operating Activities															
Net Income	$ (14.5)	$ (20.6)	$ (6.9)	$ (6.9)	$ (7.9)	$ (8.5)	$ (30.3)	$ (8.9)	$ (9.3)	$ (10.1)	$ (10.4)	$ (38.7)	$ (31.3)	$ (12.1)	$ 29.2
Depreciaiton & Amortization	0.6	0.6	0.1	0.3	0.3	0.4	1.0	0.5	0.5	0.7	0.8	2.5	4.3	6.3	8.0
Stock-based Compensation	0.4	0.6	0.2	0.3	0.3	0.3	1.0	0.4	0.5	0.5	0.7	2.0	3.0	4.0	5.0
Working Capital	0.2	0.8	0.8	(0.2)	(0.2)	(1.0)	(0.6)	(2.0)	(2.0)	(2.0)	(2.0)	(8.0)	(10.0)	(15.0)	(10.0)
Other	0.0	0.6	(0.1)	0.0	0.0	0.0	(0.1)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net from Operations	**$ (13.3)**	**$ (18.1)**	**$ (5.8)**	**$ (6.6)**	**$ (7.6)**	**$ (8.9)**	**$ (28.9)**	**$ (10.0)**	**$ (10.4)**	**$ (10.9)**	**$ (11.0)**	**$ (42.2)**	**$ (34.0)**	**$ (16.8)**	**$ 32.2**
Investing Activities															
Acquisitions	$ 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	$ 0.0
Capital Expenditures	(0.3)	(0.5)	(0.3)	(0.3)	(0.3)	(0.4)	(1.3)	(0.5)	(0.6)	(0.8)	(0.9)	(2.7)	(4.5)	(7.0)	(20.0)
Other	0.0	0.1	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
Net from Investing	**$ (0.3)**	**$ (0.4)**	**$ (0.3)**	**$ (0.3)**	**$ (0.3)**	**$ (0.4)**	**$ (1.3)**	**$ (0.5)**	**$ (0.6)**	**$ (0.8)**	**$ (0.9)**	**$ (2.7)**	**$ (4.5)**	**$ (7.0)**	**$ (20.0)**
Financing Activities															
Debt (repurchase)	$ 4.6	$ 38.9	$ (0.4)	$ 6.6	$ 0.0	$ 0.0	$ 6.2	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0
Sale/Repurchase of Common Stock	0.0	0.1	0.0	0.0	65.0	0.0	65.0	0.0	0.0	0.0	0.0	0.0	50.0	0.0	0.0
Dividend	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	0.0
Other	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	0.0
Net from Financing	**$ 4.6**	**$ 39.0**	**$ (0.4)**	**$ 6.6**	**$ 65.0**	**$ 0.0**	**$ 71.2**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 50.0**	**$ 0.0**	**$ 0.0**
Exchange Rate Effect	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	0.0
Net Change in Cash	**$ (9.0)**	**$ 20.5**	**$ (6.5)**	**$ (0.3)**	**$ 57.1**	**$ (9.3)**	**$ 41.0**	**$ (10.5)**	**$ (11.0)**	**$ (11.6)**	**$ (11.8)**	**$ (44.9)**	**$ 11.5**	**$ (23.8)**	**$ 12.2**
Cash Flow	**$ (13.9)**	**$ (20.0)**	**$ (6.8)**	**$ (6.7)**	**$ (7.6)**	**$ (8.2)**	**$ (29.3)**	**$ (8.4)**	**$ (8.8)**	**$ (9.4)**	**$ (9.6)**	**$ (36.2)**	**$ (27.0)**	**$ (5.8)**	**$ 37.2**
Cash Flow Per Share	($6.00)	($8.44)	(4.80)	(0.48)	(0.40)	(0.42)	($2.17)	(0.44)	(0.46)	(0.48)	(0.50)	($1.88)	($1.29)	($0.27)	$1.66
EBITDA	**$ (14.1)**	**$ (19.1)**	**$ (6.8)**	**$ (6.7)**	**$ (7.6)**	**$ (8.2)**	**$ (29.2)**	**$ (8.4)**	**$ (8.8)**	**$ (9.4)**	**$ (9.6)**	**$ (36.2)**	**$ (27.0)**	**$ (5.8)**	**$ 52.9**
EBITDA per Share	($6.08)	($8.05)	(4.79)	(0.48)	(0.40)	(0.42)	($2.17)	(0.44)	(0.46)	(0.48)	(0.50)	($1.88)	($1.29)	($0.27)	$2.36
Free Cash Flow	**$ (13.6)**	**$ (18.6)**	**$ (6.1)**	**$ (6.9)**	**$ (7.9)**	**$ (9.3)**	**$ (30.1)**	**$ (10.5)**	**$ (11.0)**	**$ (11.6)**	**$ (11.8)**	**$ (44.9)**	**$ (38.5)**	**$ (23.8)**	**$ 12.2**
Free Cash Per Share	($5.87)	($7.83)	(4.29)	(0.49)	(0.41)	(0.48)	($2.24)	(0.55)	(0.57)	(0.60)	(0.61)	($2.33)	($1.84)	($1.09)	$0.54

Source: Company reports, Janney Capital Markets estimates, Capital IQ

09/08/14

T2 Biosystems (TTOO)
Annual Balance Sheet Statement

Paul Knight
Janney Capital Markets
212.888.2696

($ in millions, except per share data)

FY-ending Dec 31,	2012	2013	2014E					2015E					2016E	2017E	2018E
	2012	2013	1Q14	2Q14E	3Q14E	4Q14E	2014E	1Q15E	2Q15E	3Q15E	4Q15E	2015E	2016E	2017E	2018E
Assets															
Current:															
Cash + Equivalents	$ 9.7	$ 30.2	$ 23.7	$ 23.4	$ 80.5	$ 71.2	$ 71.2	$ 60.7	$ 49.7	$ 38.1	$ 26.3	$ 26.3	$ 37.8	$ 13.9	$ 26.1
Short-Term Investments	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	0.0
Receivables - net	0.0	0.0	0.0	0.1	0.1	0.4	0.4	0.9	1.4	1.9	2.4	2.4	4.9	8.6	11.1
Inventories	0.0	0.0	0.0	0.2	0.3	1.1	1.1	2.6	4.1	5.6	7.1	7.1	14.6	25.8	33.3
Other	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Total Current Assets	**$ 9.8**	**$30.4**	**$ 23.9**	**$ 23.8**	**$ 81.2**	**$ 72.9**	**$ 72.9**	**$ 64.4**	**$ 55.4**	**$ 45.8**	**$ 35.9**	**$ 35.9**	**$ 57.4**	**$ 48.6**	**$ 70.7**
PP & E, net	$ 1.2	$ 1.1	$ 1.2	$ 1.3	$ 1.3	$ 1.3	$ 1.3	$ 1.4	$ 1.5	$ 1.5	$ 1.6	$ 1.6	$ 1.8	$ 2.6	$ 14.6
Goodwill & Intangibles	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	0.0
Available-for-sales secs. & LT cash	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	0.0
Other Assets	0.4	0.4	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Total Assets	**$ 11.4**	**$31.9**	**$ 25.8**	**$ 25.8**	**$ 83.1**	**$ 74.8**	**$ 74.8**	**$ 66.4**	**$ 57.5**	**$ 48.0**	**$ 38.2**	**$ 38.2**	**$ 59.9**	**$ 51.8**	**$ 86.0**
Liabilities and Shareholders' Equity															
Current:															
Current Debt	$ 0.8	$ 1.8	$ 1.8	$ 8.4	$ 8.4	$ 8.4	$ 8.4	$ 8.4	$ 8.4	$ 8.4	$ 8.4	$ 8.4	$ 8.4	$ 8.4	$ 8.4
Accounts Payable & Accruals	1.3	2.3	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
Other Liabilities	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	0.0
Total Current Liabs.	**$ 2.1**	**$4.0**	**$ 5.2**	**$ 11.8**	**$ 11.8**	**$ 11.8**	**$ 11.8**	**$ 11.8**	**$ 11.8**	**$ 11.8**	**$ 11.8**	**$ 11.8**	**$ 11.8**	**$ 11.8**	**$ 11.8**
Long-Term Debt	$ 5.1	$ 3.3	$ 2.9	$ 2.9	$ 2.9	$ 2.9	$ 2.9	$ 2.9	$ 2.9	$ 2.9	$ 2.9	$ 2.9	$ 2.9	$ 2.9	$ 2.9
Other Liabilities	0.8	1.3	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Stockholders Equity	3.5	23.3	16.6	9.9	67.2	59.0	59.0	50.5	41.7	32.1	22.3	22.3	44.1	36.0	70.1
Total Liabs. & Equity	**$ 11.4**	**$ 31.9**	**$ 25.8**	**$ 25.8**	**$ 83.1**	**$ 74.8**	**$ 74.8**	**$ 66.4**	**$ 57.5**	**$ 48.0**	**$ 38.2**	**$ 38.2**	**$ 59.9**	**$ 51.8**	**$ 86.0**
Audit	*0.000*	*0.000*	*0.000*	*0.000*	*0.000*	*0.000*	*0.000*	*0.000*	*0.000*	*0.000*	*0.000*	*0.000*	*0.000*	*0.000*	*0.000*

Ratio Analysis

FY-ending Dec 31,	2012	2013	2014E					2015E					2016E	2017E	2018E
	2012	2013	1Q14	2Q14E	3Q14E	4Q14E	2014E	1Q15E	2Q15E	3Q15E	4Q15E	2015E	2016E	2017E	2018E
Book Per Share	$1.50	$9.81	$11.75	$0.71	$3.49	$3.06	$4.37	$2.62	$2.16	$1.66	$1.15	$1.16	$2.11	$1.65	$3.13
Net Cash per Share	$1.65	$10.60	$13.51	$0.87	$3.60	$3.12	$4.45	$2.57	$1.99	$1.39	$0.78	$0.78	$1.27	$0.12	$0.66
Return on Assets (ROA)	(126.5%)	(64.6%)	(107.2%)	(107.5%)	(38.2%)	(45.6%)	(40.5%)	(53.3%)	(64.9%)	(83.8%)	(109.2%)	(101.3%)	(52.2%)	(23.4%)	33.9%
Return on Equity (ROE)	(415.5%)	(88.6%)	(166.9%)	(279.4%)	(47.1%)	(57.8%)	(51.4%)	(70.0%)	(89.6%)	(125.2%)	(186.7%)	(173.1%)	(71.0%)	(33.7%)	41.6%
Return on Invest Capital	(3531.2%)	NA	NA	NA	NA	(4327.4%)	(15374%)	(393.9%)	(214.7%)	(157.1%)	(123.4%)	(457.7%)	(167.3%)	(35.1%)	51.7%
NOPAT	(14.6)	(20.0)	(6.9)	(6.9)	(7.9)	(8.5)	(30.3)	(8.9)	(9.3)	(10.1)	(10.4)	(38.7)	(31.3)	(12.1)	29.2
Invested Capital	0.4	(0.6)	(1.3)	(1.1)	(0.9)	0.2	0.2	2.2	4.3	6.4	8.4	8.4	18.7	34.4	56.4
Inventory Turnover	NA	NA	NA	0	0	0	0.0	0.0	0.0	0.2	0.6	0.2	0.9	1.7	1.8
Days Sales Outstanding	0.0	0.0	NA	60.0	120.0	420.0	560.0	1,530.0	1,065.8	351.3	149.5	412.2	52.3	25.3	16.7
Current Ratio	4.6	7.5	4.6	2.0	6.9	6.2	6.2	5.5	4.7	3.9	3.0	3.0	4.9	4.1	6.0
Debt / Equity	169.0%	21.7%	27.8%	113.2%	16.7%	19.0%	19.0%	22.2%	26.9%	34.9%	50.2%	50.2%	25.5%	31.2%	16.0%
Debt / Capital	62.8%	17.9%	21.8%	53.1%	14.3%	16.0%	16.0%	18.2%	21.2%	25.9%	33.4%	33.4%	20.3%	23.8%	13.8%

Source: Company reports, Janney Capital Markets estimates, Capital IQ

09/08/14

Commercialize 1Q15 - clinical trial and high volume sites first. Account Rep model for revenues. Fully productive 6-8 accounts per year (per Rep?)

Total high-risk population (mil) 6.75 **Candida** 2.0 **Heme**

Tests Top 450 hospitals (30%) 2.025 million

***T2 estimates that top 450 could account for upwards of half of testing volume**

	BASE	Tests	Hospitals	Volume	Qrtly		***Bear***	Tests	Hospitals	Volume	Qrtly
Top	100	8000	100	800,000	*2000*	Top	100	5000	100	500,000	*1250*
	200	6000	100	600,000	*1500*		200	3000	100	300,000	*750*
	300	4000	100	400,000	*1000*		300	2500	100	250,000	*625*
	450	3000	150	450,000	*750*		450	2000	150	300,000	*500*
	Top 450 hospitals	***5,000***		***2,250,000***			**Top 450 hospitals**	***3,000***		***1,350,000***	
			est.						*est.*		
	>450	1500	3,000		375		>450	1500	3,600		375
				4,500,000						***5,400,000***	

CANDIDA DGx Test **Test utilization** 1Q 2Q 3Q 4Q 5Q 6Q

0% 20% 40% 60% 80% 100% **Co - 0/33/66/100**

Hospital Adoption (Tier)

Top	1Q15	2Q15	3Q15	4Q15	1Q16	2Q16	3Q16	4Q16	1Q17	2Q17	3Q17	4Q17	1Q18	2Q18	3Q18	4Q18
100	0	4	7	8	11	15	19	23	25	29	33	36	37.6	38.5	39.0	39.8
%	0%	100%	50%	30%	24%	20%	18%	15%	13%	12%	11%	10%	9%	8%	7%	6%
200	0	0	7	8	13	19	26	33	39	44	48	52	58.5	55.4	56.1	56.5
%	0%	0%	50%	30%	27%	26%	24%	22%	20%	18%	16%	15%	14%	12%	10%	9%
300	0	0	0	8	12	19	27	36	43	49	54	61	62.7	65.0	66.0	66.5
%	0%	0%	0%	30%	27%	26%	25%	24%	22%	20%	18%	17%	15%	14%	12%	11%
450	0	0	0	1	7	15	25	39	51	61	74	82	87.7	91.5	93.5	95.7
%	0%	0%	0%	5%	15%	20%	23%	26%	26%	25%	25%	23%	21%	19%	17%	15%
>450	0	0	0	1	3	6	11	20	37	61	89	126	171	231	295	363
	0%	0%	0%	5%	7%	8%	11%	13%	19%	25%	30%	36%	41%	48%	54%	58%
Total Accts	**0**	**4**	**13**	**27**	**47**	**73**	**109**	**151**	**194**	**243**	**297**	**356**	**418**	**482**	**550**	**621**

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	1Q15	2Q15	3Q15	4Q15	1Q16	2Q16	3Q16	4Q16	1Q17	2Q17	3Q17	4Q17	1Q18	2Q18	3Q18	4Q18
Top 100	0	0	1600	4200	7440	11904	17724	23737	30182	37043	44231	51490	58127	64121	69436	73397
Top 200	0	0	0	1950	4380	8147	13821	21651	29651	38876	48218	56811	64478	72074	77039	80753
Top 300	0	0	0	0	2430	5705	7868	13305	20541	27468	34714	41632	48307	53603	58063	61547
Top 450	0	0	0	0	270	1249	3431	7183	13062	20436	28493	37457	45996	53276	59430	64345
> 450	0	0	0	0	203	363	799	1656	3126	5792	10082	16334	24963	36339	50914	68503
Total Tests	-	-	**1,600**	**6,150**	**14,723**	**27,367**	**43,643**	**67,531**	**96,561**	**129,614**	**165,736**	**203,723**	**241,870**	**279,412**	**314,882**	**348,546**
Test Cost																
$200	$0.000	$0.000	$0.112	$0.431	$2.356	$4.379	$6.983	$10.805	$15.450	$20.738	$26.518	$32.596	$38.699	$44.706	$50.381	$55.767
$175	$0.000	$0.000	$0.168	$0.646	$0.515	$0.958	$1.528	$2.364	$3.380	$4.536	$5.801	$7.130	$8.465	$9.779	$11.021	$12.199
DGx Revs	**$0.000**	**$0.000**	**$0.280**	**$1.076**	**$2.9**	**$5.3**	**$8.5**	**$13.2**	**$18.8**	**$25.3**	**$32.3**	**$39.7**	**$47.2**	**$54.5**	**$61.4**	**$68.0**

IMPORTANT DISCLOSURES

Research Analyst Certification

I, Paul Knight, the Primarily Responsible Analyst for this research report, hereby certify that all of the views expressed in this research report accurately reflect my personal views about any and all of the subject securities or issuers. No part of my compensation was, is, or will be, directly or indirectly, related to the specific recommendations or views I expressed in this research report.

Janney Montgomery Scott LLC ("Janney") Equity Research Disclosure Legend

T2 Biosystems, Inc. currently is, or during the past 12 months was, a Janney Montgomery Scott LLC client. Janney Montgomery Scott LLC, provided investment banking related services.

Janney Montgomery Scott LLC managed or co-managed a public offering of securities for T2 Biosystems, Inc. in the past 12 months.

Janney Montgomery Scott LLC received compensation for investment banking services from T2 Biosystems, Inc. in the past 12 months.

Janney Montgomery Scott LLC intends to seek or expects to receive compensation for investment banking services from T2 Biosystems, Inc. in the next three months.

The research analyst is compensated based on, in part, Janney Montgomery Scott's profitability, which includes its investment banking revenues.

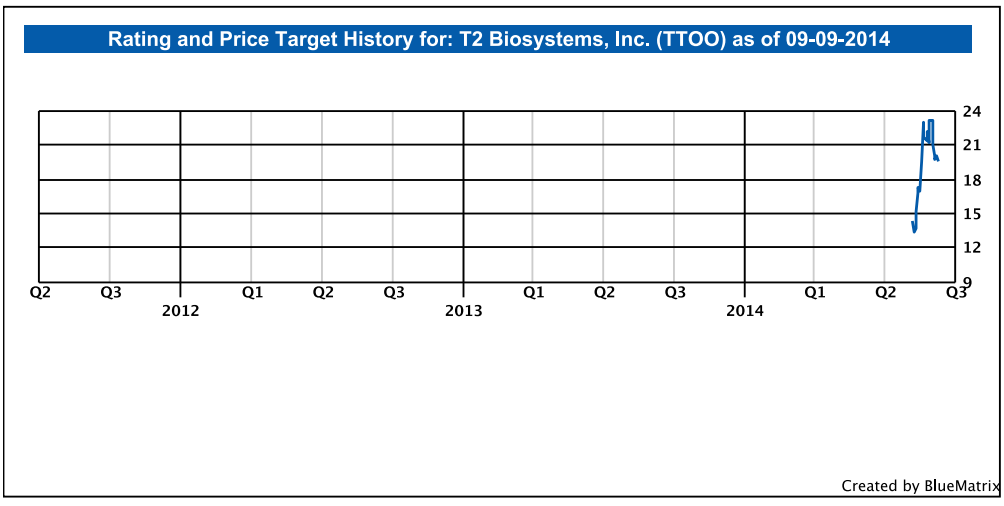
Definition of Ratings

BUY: Janney expects that the subject company will appreciate in value. Additionally, we expect that the subject company will outperform comparable companies within its sector.

NEUTRAL: Janney believes that the subject company is fairly valued and will perform in line with comparable companies within its sector. Investors may add to current positions on short-term weakness and sell on strength as the valuations or fundamentals become more or less attractive.

SELL: Janney expects that the subject company will likely decline in value and will underperform comparable companies within its sector.

Price Charts



Janney Montgomery Scott Ratings Distribution as of 6/30/14

			IB Serv./Past 12 Mos.	
Rating	**Count**	**Percent**	**Count**	**Percent**
BUY [B]	207	53.80	53	25.60
NEUTRAL [N]	176	45.70	28	15.90
SELL [S]	2	0.50	0	0.00

***Percentages of each rating category where Janney has performed Investment Banking services over the past 12 months.**

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