UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

SCHEDULE 14A INFORMATION

Proxy Statement Pursuant to Section 14(a) of the Securities Exchange Act of 1934 (Amendment No.)

Filed by the Registrant \square

Filed by a Party other than the Registrant \Box

Check the appropriate box:

- Preliminary Proxy Statement
- Confidential, for Use of the Commission Only (as permitted by Rule 14a-6(e)(2))
- Definitive Proxy Statement
- Definitive Additional Materials
- □ Soliciting Material under §240.14a-12

T2 BIOSYSTEMS, INC.

(Name of Registrant as Specified In Its Charter)

(Name of Person(s) Filing Proxy Statement, if other than the Registrant)

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- \boxtimes No fee required.
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- \Box Check box if any part of the fee is offset as provided by Exchange Act Rule 0-11(a)(2) and identify the filing for which the offsetting fee was paid previously. Identify the previous filing by registration statement number, or the Form or Schedule and the date of its filing.
 - (1) Amount Previously Paid:
 - (2) Form, Schedule or Registration Statement No.:
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T2 BIOSYSTEMS, INC.

SUPPLEMENT TO THE DEFINITIVE PROXY STATEMENT FOR THE ANNUAL MEETING OF STOCKHOLDERS TO BE HELD ON JUNE 25, 2021

On May 25, 2021, T2 Biosystems, Inc. (the "Company") released a press release and video regarding the proposals described in its definitive proxy statement (the "Proxy Statement") for the Company's Annual Meeting of Stockholders that will be held virtually on Friday, June 25, 2021 at 9:00 a.m. Eastern time. The press release and transcript of the video are attached hereto as Exhibits A and B, respectively.

[Exhibit A]

T2 Biosystems Reminds Stockholders to Vote at the Upcoming Annual Meeting

LEXINGTON, Mass., May 25, 2021 (GLOBE NEWSWIRE)—T2 Biosystems, Inc. (NASDAQ:TTOO), a leader in the rapid detection of sepsis-causing pathogens, today reminded stockholders to vote at the upcoming 2021 Annual Meeting of Stockholders to be held on June 25, 2021. The T2 Biosystems Board of Directors unanimously supports each stockholder proposal on the proxy and encourages all stockholders to vote for these proposals.

The Company's President and CEO, John Sperzel, has released a statement communicating to stockholders the importance of the proposals and their potential impact on the Company. The video statement can be found on the Investor Relations section of the Company's website at investors.t2biosystems.com.

T2 Biosystems, Inc. will be holding its Annual Meeting virtually on June 25, 2021 at 9:00 a.m. Eastern Time at www.virtualshareholdermeeting.com/TTOO2021. T2 Biosystems' stockholders of record as of April 28, 2021 are entitled to vote at the Annual Meeting.

T2 Biosystems' definitive proxy materials, 2020 Annual Report to Stockholders and other relevant information can be found at www.sec.gov.

If you have any questions about how to vote your shares, or need additional assistance, please contact MacKenzie Partners at 1-800-322-2885.

About T2 Biosystems

T2 Biosystems, a leader in the rapid detection of sepsis-causing pathogens, is dedicated to improving patient care and reducing the cost of care by helping clinicians effectively treat patients faster than ever before. T2 Biosystems' products include the T2Dx[®] Instrument, T2Candida[®] Panel, the T2Bacteria[®] Panel, the T2ResistanceTM Panel, and the T2SARS-CoV-2[™] Panel and are powered by the proprietary T2 Magnetic Resonance (T2MR[®]) technology. T2 Biosystems has an active pipeline of future products, including the T2CaurisTM Panel, and T2Lyme TM Panel, as well as additional products for the detection of bacterial and fungal pathogens and associated antimicrobial resistance markers, and biothreat pathogens.

Forward-Looking Statements

This press release contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. All statements contained in this press release that do not relate to matters of historical fact should be considered forward-looking statements, including, without limitation, statements regarding the stockholder proposals and their potential impact, as well as statements that include the words "expect," "intend," "plan", "believe", "project", "forecast", "estimate," "may," "should," "anticipate," and similar statements of a future or forward looking nature. These forward-looking statements are based on management's current expectations. These statements are neither promises nor guarantees, but involve known and unknown risks, uncertainties and other important factors that may cause actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements, including, but not limited to, (i) any inability to (a) realize anticipated benefits from commitments, contracts or products; (b) successfully execute strategic priorities; (c) bring products to market; (d) expand product usage or adoption; (e) obtain customer testimonials; (f) accurately predict

growth assumptions; (g) realize anticipated revenues; (h) incur expected levels of operating expenses; or (i) increase the number of high-risk patients at customer facilities; (ii) failure of early data to predict eventual outcomes; (iii) failure to make or obtain anticipated FDA filings or clearances within expected time frames or at all; or (iv) the factors discussed under Item 1A. "Risk Factors" in the Company's Annual Report on Form 10-K for the year ended December 31, 2020, filed with the U.S. Securities and Exchange Commission, or SEC, on March 31, 2021, and other filings the Company makes with the SEC from time to time. These and other important factors could cause actual results to differ materially from those indicated by the forward-looking statements made in this press release. Any such forward-looking statements at some point in the future, unless required by law, it disclaims any obligation to do so, even if subsequent events cause its views to change. Thus, no one should assume that the Company's silence over time means that actual events are bearing out as expressed or implied in such forward-looking statements. These forward-looking statements should not be relied upon as representing the Company's views as of any date subsequent to the date of this press release.

Important Information

The Company, its directors, director nominees and certain of its executive officers are participants in the solicitation of proxies from stockholders in respect of the Annual Meeting. The Company has filed a definitive proxy statement and associated proxy card in connection with the solicitation of proxies for the Annual Meeting with the SEC. Details concerning the nominees of the Company's board of directors for election at the Annual Meeting are set forth in the definitive proxy statement. BEFORE MAKING ANY VOTING DECISION, STOCKHOLDERS OF THE COMPANY ARE URGED TO READ ALL RELEVANT DOCUMENTS FILED WITH OR FURNISHED TO THE SEC, INCLUDING THE COMPANY'S DEFINITIVE PROXY STATEMENT AND ANY SUPPLEMENTS THERETO, AS THEY CONTAIN IMPORTANT INFORMATION. Information regarding the identity of the Company's participants and their respective interests in the matters to be voted on at the Annual Meeting. Investors and stockholders can obtain a copy of the definitive proxy statement and other documents filed with the SEC in connection with the Annual Meeting. Investors and stockholders can obtain a copy of the definitive proxy statement and other documents filed by the Company free of charge from the SEC's website at www.sec.gov. The Company's stockholders can also obtain, without charge, a copy of the definitive proxy statement and other relevant filed documents from the "SEC Filings" section of the Company's website at www.t2biosystems.com.

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[Exhibit B]

T2 Biosystems Shareholder Vote May 25, 2021

John Sperzel

I am John Sperzel, President and CEO of T2 Biosystems. I am recording this message to communicate directly with our stockholders, prior to the Company's June 25, 2021 annual stockholder meeting, to highlight the significant progress we have made in executing on our strategy, discuss the importance of the proposals in this year's proxy, and explain why we are asking stockholders to vote in favor of all the proposals. If the proposals do not pass, we strongly believe it will hinder our ability to advance on our growth trajectory and cause additional disruptions and unplanned costs.

Today's comments will include forward-looking statements. Those include statements related to T2 Biosystems' future financial and operating results and plans for developing and marketing new products. Forward-looking statements are based on estimates and assumptions as of today and are subject to risks and uncertainties that may cause actual results to differ materially from those expressed or implied by these statements, including the risks and uncertainties described in T2 Biosystems' annual report on Form 10-K filed with the SEC on March 31, 2021, and other filings the company makes with the SEC from time to time. The company undertakes no obligation to publicly update or revise any forward-looking statements, except as required by law.

Despite the COVID-19 pandemic, we made meaningful progress toward our mission to fundamentally change the way medicine is practiced through transformative diagnostics that improve the lives of patients around the world. We are laser-focused on driving the adoption of our novel products to become the standard of care for treating patients at risk of sepsis, improve patient outcomes, reduce the threat of antibiotic resistance, and drive long-term sustained growth for the Company and create stockholder value.

In 2020, we achieved total revenue of \$18.1 million, an increase of 118% compared to the prior year. We sold 57 T2Dx[®] Instruments, including 47 in the U.S., which more than doubled our U.S. instrument installed base, and achieved annualized U.S. sepsis test utilization of \$86,000 per instrument, an increase of 72%. Our growth continued during the first quarter of 2021, as we achieved total revenue of \$7.0 million, an increase of 173% compared to the prior year period, and increased U.S. sepsis test utilization to \$111,000 per instrument.

Our team successfully developed and launched a COVID-19 molecular diagnostic test, the T2SARS-CoV-2[™] Panel, we made meaningful operational improvements, and we continue to make outstanding progress advancing our new product pipeline, including the T2 Resistance[®] Panel, comprehensive sepsis panel, next-generation instrument, and biothreat panel, all of which receive funding from the U.S. government, or BARDA.

We have built a clinically focused U.S. sales team to drive the adoption of our products, received a multi-year innovative technology contract from Vizient, Inc., which includes our sepsis products and provides access to 50% of U.S. acute care hospitals and 95% of U.S. academic medical centers, and hired an experienced Chief Medical Officer to raise awareness in hospital laboratories and strengthen our value proposition through the development of clinical and economic data.

To facilitate the continuation of this momentum, and pave the way for future success, the company must maintain a corporate infrastructure conducive to growth. Two of the proposals, which I will describe, are crucial for updating the corporate structure to support our business efforts moving forward, and important to our continued competitiveness in the market and success as a company. These are the Charter amendment to increase the number of authorized shares of common stock and the amendment and restatement of the Company's Incentive Award Plan. Our Board of Directors has carefully considered these proposals, acknowledging their fiduciary duty to stockholders, and believes they are reasonable and necessary to address the Company's needs.

#1. The Charter amendment to increase authorized shares of common stock – under the Company's current charter, the number of shares of common stock outstanding, in addition to shares reserved for equity plans and outstanding warrants, leaves limited shares remaining for strategic opportunities, financing activities or attracting and retaining

the most talented employees. We are asking stockholders to approve an increase to the number of shares to allow the Company to continue to operate in its normal course, including, without limitation, financing activities, public or private offerings, stock dividends or splits, conversions of convertible securities, issuance of options and other equity awards pursuant to our employee benefit plans, establishing a strategic relationship with a corporate partner and acquisition transactions. If this proposal is not approved, the Company will either need to adjourn the annual stockholder meeting in an effort to secure additional support for the proposals or will need to call another stockholder meeting to approve an alternative amendment, each at avoidable additional expense and distraction to the Company. And, just to be clear, if this amendment is approved, it will not, without further action by the Board to issue authorized stock, have an impact on the number of shares of common stock currently outstanding and therefore, will not, by itself, have a dilutive effect on current stockholders.

#2. The Amendment and Restatement of the Company's 2014 Incentive Award Plan – the current Plan was adopted several years ago and changes in tax laws have eliminated the need for a limit on the aggregate size of awards that may be granted to an individual under the Plan. Instead of removing the limit, we are asking stockholders to approve an amendment to the Plan to increase the limit, among other changes, which we believe will better allow the Company to attract and retain the best talent. It is an expectation in this highly competitive labor market that top talent will be awarded equity to align their interests with shareholders and share in the progress the Company makes toward its long-term goals. If this proposal is not approved, the Company will be severely restricted in its ability to use equity and will have to consider utilizing precious cash resources in place of equity awards or face challenges attracting and retaining some of its most talented employees.

We believe these proposals are imperative for creating a path forward for long-term sustained value creation. In fact, they are vital to the Company's ability to continue its operations, as contemplated, without significant interruption or expense. Regardless of your opinion toward management or the current share price, we are in this together and we need your support to provide the company with the ability to achieve future success. Before casting a vote, please take some time to consider if the Company will be able to continue to operate in the normal course, or to attract and retain talented candidates, if these proposals are not approved.

In closing, I will remind you of our opportunity to change the sepsis standard of care. Today, that sepsis is the #1 cost of U.S. hospitalization, costing nearly \$62 billion annually, and the #1 cause of death in U.S. hospitals, claiming nearly 270,000 American lives <u>each and every year</u>. By those measures, the current standard of care – which relies on positive blood culture and broad empiric protocols to administer antimicrobial therapy – must be improved. T2 Biosystems has the first and only FDA cleared technology to identify sepsis-causing pathogens directly from whole blood, in just 3-5 hours, which is a significant improvement compared to blood culture. As a sepsis survivor, I understand the positive impact our products can have for patients, hospitals, and the broader healthcare system, and I assure you that our team is committed to creating long-term shareholder value.

Thank you to all of our stockholders for your consideration and support voting for these critical proposals so we can continue to execute on our mission to improve the lives of patients, and their families, around the world.