

Tempus AI, Inc.  
600 West Chicago Avenue, Suite 510  
Chicago, IL 60654

June 11, 2024

**VIA EDGAR**

U.S. Securities and Exchange Commission  
Division of Corporation Finance  
Office of Technology  
100 F Street, N.E.  
Washington, D.C. 20549  
Attn: Jan Woo, Kyle Wiley, Robert Littlepage, Claire DeLabar

**Re: Tempus AI, Inc.  
Registration Statement on Form S-1, as amended (File No. 333-279558)  
Request for Acceleration of Effective Date**

Ladies and Gentlemen:

Pursuant to Rule 461 of the General Rules and Regulations under the Securities Act of 1933, as amended, Tempus AI, Inc. (the "Company") hereby requests that the U.S. Securities and Exchange Commission (the "Commission") accelerate the effective date of the above-referenced Registration Statement on Form S-1 (as amended to date, the "Registration Statement") and declare the Registration Statement effective as of 4:00 p.m. Eastern time, on June 13, 2024, or as soon thereafter as possible, or at such other time as its legal counsel, Cooley LLP, may request by telephone to the staff of the Commission.

Once the Registration Statement has been declared effective, please orally confirm that event with Christina Roupas of Cooley LLP at (312) 881-6670 or, in her absence, Courtney Tygesson of Cooley LLP at (312) 881-6680.

Under separate cover, you will receive today a letter from the managing underwriters of the proposed offering joining in the Company's request for acceleration of the effectiveness of the Registration Statement.

Very truly yours,

Tempus AI, Inc.

/s/ Eric Lefkofsky

By: Eric Lefkofsky

Title: Chief Executive Officer, Founder and Chairman

cc: Jim Rogers, Tempus AI, Inc.  
Erik Phelps, Tempus AI, Inc.  
Andy Polovin, Tempus AI, Inc.  
Ryan Bartolucci, Tempus AI, Inc.  
Eric Jensen, Cooley LLP  
Christina Roupas, Cooley LLP  
Courtney Tygesson, Cooley LLP  
Alan F. Denenberg, Davis Polk & Wardell LLP  
Yasin Keshvargar, Davis Polk & Wardell LLP