

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

March 5, 2025

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: Uwem Bassey, Matthew Derby

**Re: Tempus AI, Inc.
Registration Statement on Form S-1 (File No. 333-285186)
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") take appropriate action to cause the above-referenced Registration Statement on Form S-1 (the "Registration Statement") to become effective as of 4:00 p.m. Eastern time, on March 7, 2025, or as soon thereafter as is practicable, 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.

Very truly yours,

Tempus AI, Inc.

/s/ James Rogers

By: James Rogers

Title: Chief Financial Officer

cc: Erik Phelps, Tempus AI, Inc.
Andy Polovin, Tempus AI, Inc.
Ryan Bartolucci, Tempus AI, Inc.
Christina Roupas, Cooley LLP
Courtney Tygesson, Cooley LLP