

AI-SED
AI Smart
Electronic
Design



"El saber de mis hijos
hará mi grandeza"

EDASIM
INTEGRATING IDEAS



UNAM-TUCSON

CENTRO DE ESTUDIOS
MEXICANOS



UAT-FI
Unidad de Alta Tecnología
UNAM



SAPIEX



Global Electronics
Association™

KOLAB



SEMICON DESERT

Call For Entries - AI-SED 2026

Semicon Desert, in partnership with Universidad de Sonora, UNAM-Tucson, and the University of Arizona, invites young undergraduate and graduate students from Higher Education Institutions in Mexico to participate in the “*AI Smart Electronic Design*” competition. This contest aims to foster collaboration between Academia and the Productive Sector, as well as to encourage youth participation in semiconductor design by solving real world industrial challenges and problems.

Competition Guidelines

1. Objective:

To promote and strengthen the linkage between Upper Secondary (Vocational/Technical High Schools) and/or Higher Education Institutions in Mexico and the productive sector. This is achieved through the development of solutions—enhanced by Artificial Intelligence—that address real opportunities and challenges within the Semiconductor and Electronics design industry.

2. Target Audience:

Students enrolled in technical high schools, undergraduate engineering or bachelor's programs, and postgraduate programs related to Technological Development or related fields, such as:

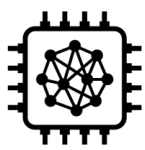
- Electronics
- Mechatronics
- Physics
- Computer Science
- Data Science
- Systems Engineering
- Artificial Intelligence (AI)
- Semiconductors
- Aeronautics

Participants must demonstrate an interest in applying technical knowledge and creativity to develop solutions with industrial impact. Interested applicants must be enrolled in Upper Secondary and/or Higher Education Institutions (public or private) across Mexico.

**Recent graduates who have completed their undergraduate/engineering or postgraduate studies within the last 2 years (verifiable) are also eligible to participate.*

3. Participating Institutions:

- I. Sapiex
- II. Edasim México



AI-SED
AI Smart
Electronic
Design



"El saber de mis hijos
hará mi grandeza"

EDASIM
INTEGRATING IDEAS



UNAM-TUCSON

CENTRO DE ESTUDIOS
MEXICANOS



UAT-FI
Unidad de Alta Tecnología
UNAM



SAPIEX



Global Electronics
Association™

KOLAB



SEMICON DESERT

- III. MicrofabMX
- IV. Global Electronics Association
- V. Kolab
- VI. Universidad de Sonora
- VII. Universidad de Arizona
- VIII. UNAM-Tucson
- IX. Semicon Desert
- X. Unidad de Alta Tecnología de la UNAM

4. Challenge to Address:

Design a Printed Circuit Board (PCB) for a specific industrial device, addressing spatial/area limitations and signal routing challenges, among other essential characteristics required for the proper functioning of a Printed Circuit Board Assembly (PCBA).

Teams must design a PCB for an industrial device of their choice, addressing spatial constraints and signal routing challenges by integrating Artificial Intelligence techniques for the optimization of design, performance, accuracy, and/or operational efficiency. The goal is for participants to develop a robust conceptual design, properly justified with benchmark parameters.

Additionally, designs that demonstrate a competitive cost compared to existing market solutions will be highly valued, provided their feasibility and realism are justified.

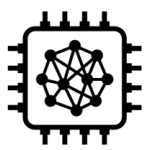
5. Operating Mechanism:

❖ Stage 1: Pre-Registration

- Interested participants must form a team of 3 to 5 members. Teams are preferably interdisciplinary and may also be inter-institutional. If an individual does not have a team, they may register individually, and the organizers will assist them in joining or forming a team.
- Teams must complete their pre-registration through the Sapiex website: www.sapiex.com.mx/challenges/ai-sed/2026/register

❖ Stage 2: Training and Preliminary Project Proposal (2 Weeks)

- All pre-registered teams will be invited to attend a completely free workshop where the applied design methodology will be presented in detail.
- During this stage, participants will receive training in the use of Proteus software, PCB design tools, Artificial Intelligence, and Industry Vision.



AI-SED
AI Smart
Electronic
Design



"El saber de mis hijos
hará mi grandeza"

EDASIM
INTEGRATING IDEAS



UNAM-TUCSON

CENTRO DE ESTUDIOS
MEXICANOS



UAT-FI
Unidad de Alta Tecnología
UNAM



SAPIEX



Global Electronics
Association™

KOLAB



SEMICON DESERT

- Each team must have at least one advisor to guide them throughout the competition. It is strongly recommended that each team personally seek out their advisor whether an academic, researcher, or industry professional to ensure personalized guidance and expertise. Personal advisors will be officially registered by the organizing committee for formal recognition.
- Teams will draft a Preliminary Project Proposal for the PCB to be designed, using a format provided by the organizing committee. This proposal must be endorsed by the team's advisor(s).
- The preliminary proposal must be submitted/sent to the Semicon Desert organizing committee to receive a Certificate of Completion for the training course.
- Preliminary proposals that fulfill all the above requirements and are endorsed by the evaluation committee will advance to Stage 3.

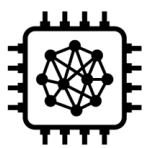
❖ **Stage 3: Project Development**

- **Problem Definition:** Participants must clearly identify and articulate the real-world need or challenge their project aims to solve, justifying its relevance and identifying the beneficiaries.
- **Solution Selection:** Teams must choose the appropriate system around which they will build their design. The PCB design must be technically justified regarding its features, functions, and properties.
- **Conceptual Design & Benchmark Parameters:** Each team must present the general system schematic illustrating the architecture, main components, information flow, and simulated results (PCB). Furthermore, participants must define the comparison benchmarks or standard industry values used to evaluate the PCB's data/performance.
- **AI Integration Proposal:** Participants must explain and prove how Artificial Intelligence (AI) was utilized to optimize the PCB, clearly demonstrating the added value it brings. Teams must compare the design parameters before and after being optimized through AI techniques.

The completed Project must be submitted/sent to the Organizing Committee for jury evaluation.

❖ **Stage 4: Project Evaluation**

- Projects will be evaluated by a jury composed of academic experts and industry professionals.
- This stage will apply the Evaluation Criteria outlined in Section 6 of this document.



**AI Smart
Electronic
Design**



"El saber de mis hijos
hará mi grandeza"

EDASIM
INTEGRATING IDEAS



UNAM-TUCSON

CENTRO DE ESTUDIOS
MEXICANOS



UAT-FI
Unidad de Alta Tecnología
UNAM



SAPIEX



**Global Electronics
Association™**

KOLAB



SEMICON DESERT

- Participants will receive constructive feedback from the evaluation to foster their professional growth.

❖ **Stage 5: Final Presentation**

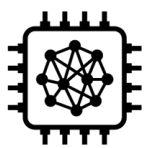
- The top 5 teams evaluated in Stage 4 will have the opportunity to present and defend their project before the jury.
- Participants in this stage will have 3 minutes to present their work, followed by a 4-minute Q&A session.
- The criteria evaluated during this stage will be the quality of the presentation and defense, as stated in Section 6.

❖ **Stage 6: Awarding of Best Projects**

- Prizes will consist of monetary incentives for the teams that win the top 3 places after completing Stage 5:
 - 1st Place: \$25,000 MXN + Fabrication of the winning PCB by the High Technology Unit of UNAM (Unidad de Alta Tecnología de la UNAM).
 - 2nd Place: \$15,000 MXN
 - 3rd Place: \$10,000 MXN
- In addition, formal recognition certificates will be awarded to all winners, including their advisors.

6. Evaluation Criteria:

- ❖ To ensure transparency and quality in the winner selection process, evaluations will be governed by a pre-established set of criteria. These criteria allow for an objective assessment of performance, creativity, and fulfillment of objectives by the participants.
- ❖ These criteria allow for an objective assessment of performance, creativity, and fulfillment of objectives by the participants.
- ❖ Each proposal will be reviewed by the evaluation committee based on the following breakdown:
 - PCB Design Quality: 25%
 - Effective AI Integration: 25%
 - Technical Clarity and Design Feasibility: 20%
 - Industrial Applicability and Relevance (Economic Study): 15%
 - Quality of Presentation and Defense: 15%



AI-SED
**AI Smart
Electronic
Design**



"El saber de mis hijos
hará mi grandeza"

EDASIM
INTEGRATING IDEAS



UNAM-TUCSON

CENTRO DE ESTUDIOS
MEXICANOS



UAT-FI
Unidad de Alta Tecnología
UNAM



SAPIEX



**Global Electronics
Association™**

KOLAB



SEMICON DESERT

7. Important Dates:

Activity	Dates	Duration
Call for Entries & Pre-Registration	August 10 – September 6, 2026	4 Weeks
Training & Preliminary Project Submission	September 7 – 25, 2026	3 Weeks
Project Development & Submission	September 26 – November 7, 2026	6 Weeks
Project Evaluation	November 9 – 20, 2026	2 Weeks
Final Presentation & Award Ceremony	November 25, 2026	1 Day

8. More Information:

Dra. Aned De Leon Flores

Research Professor

University of Sonora

President of the AI-SED Organizing Committee

aned.deleon@unison.mx

aned@semicondesert.com

Ing. César Verdugo Barrera

Manufacturing Engineer

Magna International

Planning & Execution Coordinator of the AI-SED

cesarverdugobarrera@gmail.com

Dr. Rafael Austreberto Sabory García

Research Professor

University of Sonora

rafael.sabory@unison.mx