

## 2021 Synopsys ARC AIoT Design Contest

Get ready to make our world smarter and create tech in a cool way!

In Synopsys ARC AIoT Design Contest, we offer you a chance to build your AIoT (AI + IoT) solution - whether in your home, your school, your health or your recreation, or any application built related to “AIoT”.

Participants are encouraged to use Synopsys embARC open source platform, focus on the application of Google TensorFlow Lite for Microcontroller (TinyML) and innovate!

Through this competition, in addition to having the opportunity to win accumulated prizes of up to more than NTD 200,000, you will receive core trainings and technical guidance from Synopsys' professionals.

Want to push your innovative idea even further? Check out Synopsys ARC AIoT Design Contest information as below and get started!

### Contest Summary:

- Organized by: Synopsys Taiwan
- Co-organized by: GLORIA-NYCU
- Sponsored by: ASVDA
- Technical Advisor: Taiwan IC Design Society (Taiwan)
- Final Contest Venue:  
National Yang Ming Chiao Tung University (Guangfu Campus, Hsinchu)
- Timeline:

Category	Items	Date	Place
<b>Registration</b>	Open for Registration	Mar 8, 2021	Website Registration & Submission
	Registration Deadline	Apr 18, 2021	
<b>Proposal Review</b>	Proposal Review	Apr 19 ~ Apr. 20, 2021	Committee Review
	Notice for Qualified Teams / Distribution of Boards	Apr 22, 2021	Website Announcement
<b>Preliminary Contest</b>	Preliminary Project Submission	May 30, 2021	Website Submission
	Preliminary Project Review	May 31 – Jun 1, 2021	Committee Review
	Notice for Qualified Teams	Jun. 3, 2021	Website Announcement
<b>Final Contest</b>	Final Project Submission	Jul 18, 2021	Website submission
	Contest Project Review	Jul 19 – Jul 21, 2021	Committee Review
	Final Contest & Award	Jul 30, 2021	National Yang Ming Chiao Tung University

### Contest Topic:

The contest topic of 2021 is “Almighty AI, from here to infinity” (人工智能, 無所不能).

The contest team will create projects related to AIoT applications with a focus on Google TensorFlow Lite for Microcontroller (TinyML).

## Contest Process:

- The participating teams will build their projects based on Himax WE-I Plus EVB and address solutions to the realm of home, work, school, or recreational life.
- The selection of the topics is encouraged to derive from Synopsys embARC open source. The proposed projects are suggested to focus on AIoT applications - innovative products, services and technologies, such as wearable devices, smart home, environmental protection, medical treatment, security, and so forth.
- Synopsys will provide development tools required for this competition.
  - ✓ Himax WE-I Plus (1 piece/ per team)
  - ✓ Synopsys MetaWare Development Kit (can be accessed through TSRI [website](#))
  - ✓ Technical advice & QA support

## Prizes:

### Prizes for Winner Team

- First Place (x 1P): NTD 80,000 and certification
- Second Place (x 1P): NTD 50,000 and certification
- Third Place (x 1P): NTD 30,000 and certification
- Excellence (several): NTD 15,000 and certification

### Prizes for Advisors

- First Place (x 1P): NTD 20,000 and certification
- Second Place (x 1P): NTD 15,000 and certification
- Third Place (x 1P): NTD 10,000 and certification
- Excellence (several): NTD 8,000 and certification

## Evaluation Criteria:

Creativity, Novelty and Complexity, High Efficiency, Work Display, Functionality and Practicality

## Qualifications and Restrictions:

- This Contest is open to all students currently enrolled in colleges or universities. The participants must be a student registered and is attending colleges or universities during the Contest period (from now until July 31, 2021) and shall not be working in any company, research institute or other entity on a full-time basis.
- Participants will join the contest as a team, which can be consisted of 1 to 4 participants (students). Each team can invite one or two advisors (professors) to supervise during the Contest period.
- Upon submitting registration of the contest, each participant agrees to follow all the provisions in the consent documentations. If there is any non-compliance or violation of such provision, the participant will be disqualified from the Contest. If there is any dispute on the compliance issue, the Contest Organizer shall have the sole authority to decide on such dispute.
- Do not submit the same project to other similar IoT contest or competitions.

- Each participant should acknowledge and agree that the project submitted to the Contest may be posted on Synopsys internal and external websites.

## Registration Instructions and Submission Requirements:

- **Proposal Review:**

The judges will select the qualified teams from the entries (PPT format) to participate in the preliminary competition. The actual number of teams entering the preliminary contest will be adjusted by the judges and the organizers according to the actual situation. The documents should be submitted by **April 18, 2021**, upon the registration deadline.

- **Preliminary Contest Project Review:**

The judges will select the qualified teams from the preliminary contest (PPT format with further explanation) to participate in the final competition. The actual number of teams entering the final will be adjusted by the judges and the organizers according to the actual situation. The documents should be submitted by **May 30th, 2021**.

- **Final Contest Project Review:**

The judges will select the finalists from the preliminary contest to pitch and demo at the Final Contest. The actual number of teams invited to pitch and demo at the Final contest will be adjusted by the judges and the organizers according to the actual situation. The documents should be submitted by **July 18th, 2021**. Final contest submission should include: project PPT, video, photos, and the Github link.

\*For detail submission instruction, please refer to the “Contest Project Submission (作品提交說明)” on the 2021 Contest website.

## ARC Technical Support Modules:

- Synopsys embARC Portal  
<https://embarc.org/>
- Synopsys embARC MLI Library  
[https://foss-for-synopsys-dwc-arc-processors.github.io/embarc\\_mli/doc/build/html/index.html](https://foss-for-synopsys-dwc-arc-processors.github.io/embarc_mli/doc/build/html/index.html)  
[https://github.com/foss-for-synopsys-dwc-arc-processors/embarc\\_mli](https://github.com/foss-for-synopsys-dwc-arc-processors/embarc_mli)
- Himax TensorFlow Lite for Microcontrollers  
<https://www.himax.com.tw/zh/products/intelligent-sensing/always-on-smart-sensing/application-solutions/>  
[https://github.com/HimaxWiseEyePlus/himax\\_tflm](https://github.com/HimaxWiseEyePlus/himax_tflm)
- Edge Impulse Firmware for Himax WE-I Plus  
<https://github.com/edgeimpulse/firmware-himax-we-i-plus>
- Google TensorFlow  
<https://www.tensorflow.org/>
- Google TensorFlow Lite for Microcontroller (TinyML) Example  
<https://github.com/tensorflow/tensorflow/tree/master/tensorflow/lite/micro/examples>
- 歷屆得獎作品  
<https://contest.synopsys.com.tw/2020ARC/PreviousWinner>

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