



Aviation Safety Competition 2019/2020

Series 5

FLYING WITH COMPUTERS

Category A (2019)

Students under 16 years

Category B (2020)

Students up to 30 Years



Scan the QR Code to Register



Singapore Institute of Aerospace Engineers

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Message from the President



Dear Fellow Aviation Enthusiasts

SIAE is pleased to bring you another interesting adventure into the aviation world. In this Series 5 of our *Aviation Safety Competition*, we focus on “Flying with Computers”.

With the advent of AI infiltrating our lives, the use of computers in critical functions came into public scrutiny. Join us in this adventure into the use of computers from autopilot to airport operations and aircraft maintenance. Learn how the aviation industry manages the conflicting interest between efficiency and safety with computers to keep flying safe.

You can win attractive prizes. More importantly, you will learn about how the people behind the scene keep the aircraft flying hundreds of thousands of people around the world safely everyday.

Lim Yeow Khee *BBM*

*Hon F.SIAE, FRAeS, A/Prof (Adj) NTU,
Adult Education Fellow IAL*

ASC 2019-20 Organising Committee



Mr Leon Chua – Chairman
Senior Lecturer
Singapore Polytechnic



Ms Lim Huey Syiane
Secretary



Capt Kevin Khoo
CAE AsiaPac Regional
Program Director



Ms Lim Chui Ping
Dy Director
CHART - Care Transformation,
Changi General Hospital



Prof Lim Yeow Khee
President, SIAE



Mr Kelvin Ong
Senior Lecturer
Singapore Polytechnic



Mr Tan Chu Hiang
Managing Director & CEO
Heavy Maintenance Singapore Services



ME7 Tay Gek Peng
Dy Head Air
Engineering and
Logistics, HQ RSAF

ASC 2019/20 Organizing Committee comprises practising aviation professionals who are experts in their own fields and passionate about sharing their experience with the NGAP.

With their experience ranging from engineers to pilots to CEOs and academics, they pooled their resources to develop ASC competition theme each year. They crafted the problem statements, develop judging criteria and carry out their judging duties diligently.

Event Timeline

Category A (students below 16 years old)

Lecture 1	24 Aug 2019
Lecture 2	31 Aug 2019
Industry Visit	19 Sep 2019
Lecture 3	07 Sep 2019
Submission of Report	19 Nov 2019
Finalists Presentation/Award	29 Nov 2019

Category B (students up to 30 years old)

Registration	Jul 2020
Lectures/Workshops	Jul 2020
Industry Visits	Jul 2020
Submission of Report	Sep 2020
Finalists Presentation/Award	Oct 2020

Special Features

- **Exciting Industry Visits**

Industry visits will be organized for participants to have a feel of operation in aerospace companies.

- **Lectures Delivered by Industry Experts**

Lectures on *Computers in Flight*, *Computers in Airports* and *Computers in Maintenance* will be conducted for students to appreciate the complexity of managing safety in aviation.

- **Award Ceremony with attractive prizes***

There would be First, Second, Third and Innovative Prizes for winners of each category. Prizes worth up to S\$5,000 can be won. Participants will receive Certificate of Participation after submitting the final reports.

* Prizes and awards are subjected to changes at the sole discretion of SIAE.

* SIAE has the final authority on the judging of all entries, as well as the awarding of prizes in the competition.

Competition Overview

Aviation Safety Competition aims to reach out to students from schools, polytechnics, colleges and universities to generate interest in aviation – one of the most exciting industry moving hundreds of thousands of people around the world every day. Our mission is to build a strong aviation culture for our Next Generation of Aviation Professionals.

The 2019 competition will be on **Category A** for young students below **16 years old**. Category B for students up to 30 years old will be conducted in 2020. Our Committee will select up to five finalists from each category to present their solutions at each award ceremony.

ASC 2019/2020 will have lectures conducted by experts from the aviation industry. Visits to aerospace facilities will give participants a feel of real-life aircraft and airport operations. Students in teams of 3-5 will work on case studies under the guidance of aviation experts.

The theme for this 2019/20 is "***Flying with Computers***". This is the fifth competition in our ASC which was launched in 2015. A series of lectures will be conducted by industry experts and senior practitioners from agencies dealing with aviation safety, navigation and MRO. Visits to aviation facilities would also be scheduled for participants to get a feel of real-life aircraft and airport operations. Case studies will be included in lectures. Students in teams of 3 to 5 will be given a problem statement to analyse and presentation their solutions. Judges will select up to 5 entries in each category for the final presentation.

Objectives:

- Learn about Safety in Flight
- Network with industry experts
- Exposure to aviation operation

Categories

Category A: students below 16 years old

Category B: students up to 30 years old

Student's age is calculated on the date of closing of Registration.

Problem Statements:

Category A: *How computer systems improved flight safety during the last 50 years and how else can computer systems further improve flight safety.*

Category B: Will be released in Jun 2020

Registration

Registration for **Cat A** closes on **22 Aug 2019** while registration Cat B will be open in Jun 2020.

- Each team (3-5 participants) needs to submit only one online registration form.
- The registration fee is S\$ 10 per participant. (Pay when you attend your first lecture.)
- By submitting your registration for the competition, you have agreed to allow SIAE the rights to use all project materials, videos, mock-ups, photographs etc, associated with your participation in the Aviation Safety Competition.

Contact SIAE if you have any queries.

asc@siae.org.sg

Scan the QR code to register



Submission Requirements & Criteria

Form a team of 3-5 students.

Attend a series of lectures and industry visits.

Final Report

Submit a report not exceeding 20 pages (A4) which may include tables, charts, diagrams and pictures. Video up to two minutes may be included. A complete bibliography from your research must be included.

Judging Criteria

Team reports will be assessed on the following criteria:

1. Overall understanding of aircraft and airport operations
2. Understanding of Aviation Safety
3. Quality and depth of research
4. Quality and effectiveness of forensic process
5. Lessons learnt from the case
6. Overall presentation of submitted report.

Finalists presentation

Each short-listed team for the finals will be given 20 minutes to present their solution to an independent panel of judges. Presentation may be in any form, Powerpoint, skits etc. Pre-prepared video is limited to 3 minutes.

Term and Conditions

1. Registration for **Category A** will close on **22 Aug 2019** and registration for Category B will close on 30 Jun 2020.
2. Minimum of 3 participants, but not more than 5 participants are allowed in a team which must include a Team leader. Each participant can only participate in one team.
3. The teams need not be affiliated to any educational institution. There is no limit to the number of teams participating from any institution.
4. Teams are allowed to take part in the Category higher than their age restricted Category.
5. All submitted entries, photographs and materials shall be properties of SIAE.
6. Members and family members of the ASC Committee are not allowed to participate in ASC.
7. SIAE may use these entries at any events at its discretion, without prior written approval from the participating teams.
8. Cash prizes will be awarded equally to each participant in the team, while non-cash prizes will be restricted to one item per participant in the team.
9. SIAE reserves the right to amend the rules and regulations. In the event of any change, all teams will be informed at least TWO(2) weeks in advance.
10. All decisions made by the ASC Committee and judging panels shall be deemed final and binding by SIAE.

ASC Background – STEM Effort from SIAE

SIAE is a non-profit organisation dedicated to promoting aviation safety and aerospace technology. Besides leading and promoting skills training, we organise the biennial SATEC and Café Aeronautique and publish Vortex, our quarterly newsletter.

In 2015, we launched **Aviation Safety Competition** to engage students in experiential STEM education. Each year we work on a theme of current interest. We started off with *Aircraft Accident Investigation* followed by *Safety in the Airways*, prompted by the missing MH370. In Series 3, we focus on *Maintenance for Safety* and last year, we looked at *Safety in Flight*. In this Series 5, we will be looking at *Computers in Flight*.

Each year, ASC attracted over a hundred participants from more than 20 schools and institutions. Following feedback from participants, we decided to stretch each Series over two years. The first part for younger students below 16 years old and the second part open to all students up to 30 years. This is to allow for a more level playing field in the competition. It also allowed us to tailor the program to fit the learning level of each age group.

We look forward to your continued participation and support of our mission to build a strong aviation culture for our *Next Generation Aviation Professionals* to grow.

www.siae.org.sg

Contact us at asc@siae.org.sg

Scan the QR code to apply for SIAE membership

