



Young  
Inventors  
Challenge  
REPORT 2019



# Young Inventors Challenge REPORT 2019



## Young Inventors Challenge 2019 Report

Compiled by:  
YIC 2019 Working Group Committee and ASTI R&D Department

Design, Layout & Editing:  
Ragavan Pandian (Freelance Designer)

Printed By:  
Firdaus Press Sdn.Bhd.  
No.28, Jalan PBS 14/4,  
Taman Perindustrian Bukit Serdang  
43300 Seri Kembangan, Selangor  
Tel/Fax: 03-8940 5595

# THANK YOU!

**Dr. Anis Bin Mahmud**

Deputy Secretary General (Policy and Entrepreneur Strategy)  
Ministry of Entrepreneur Development

**Her Excellency Samkelisiwe Mhlanga**

High Commissioner  
South African High Commission

**Mr. Masahito Hirai**

Director and International Cultural Exchange (ICE) Committee Chairman,  
Jactim Foundation

**Ms. Dzuleira Abu Bakar**

Chief Executive Officer  
Malaysian Global Innovation & Creativity Centre (Magic)

**Mr. Razif Aziz**

Acting Group Chief Executive Officer  
Cradle Fund Sdn. Bhd

**Ministry of Education (MOE)**

**Jactim Foundation**

**Tenaga Nasional Berhad (TNB)**

**Firdaus Press Sdn Bhd**

**IJM Corporation Berhad**

**Allianz Malaysia Berhad**

**Asian Food Ingredients Sdn Bhd**

**Almotahida Education Group Sdn Bhd**

**Cuberlab Sdn Bhd**

**Engineering for Kids Malaysia**

And

To all Mentors, Judges, Volunteers and Event Committee Members.

# **WORKING GROUP COMMITTEE OF YIC 2019**

## **Project Advisor**

**Dr. Mohamed Yunus Bin Mohamed Yasin**

## **Project Director**

**Mr. Anandan Shanmugam**

## **ASTI Secretariat Representative**

**Ms. Vanitha Vasu**

## **Chief Judges**

**Mr. Velavan Sengodan  
Mr. Faizal Noor Batcha**

## **Committee Members**

**Mr. Ramesh Subramaniam  
Ms. Nurain Binti Salehen**

# **TABLE OF CONTET**

Executive Summary	Page 2
About ASTI	Page 3
1.0 Introduction and Background	Page 4
2.0 Mode of Implementation	Page 8
3.0 Online Training	Page 12
4.0 The Grand Finale	Page 17
5.0 Project Proposal Write-up	Page 36
6.0 Invention Pitch Video Competition	Page 37
7.0 Project Paper Writing Competition	Page 39
8.0 Survey Analysis	Page 40
9.0 Judging	Page 63
10.0 Volunteers Management	Page 67
11.0 Funding and Budget	Page 69
12.0 Achievement of the Project	Page 71
13.0 Recommendations for the future	Page 77
14.0 Conclusion	Page 80



# EXECUTIVE SUMMARY

Young Inventors Challenge 2019 is an 'inventive' competition organised annually by the Association of Science, Technology, and Innovation (ASTI) since 2013. We have organised this event for seven years consecutively. Young Inventors Challenge (YIC) is one of the project of ASTI to promote science, technology, and innovation among high school students in Malaysia and other countries.

YIC's theme for this year was "Sustainable Development Goals (SDGs)." YIC 2019 has been published nationally and internationally through the distribution of posters, word of mouth marketing, and email and phone calls to former participants. A total of 446 teams submitted applications, of which 286 teams submitted proposals with various ideas. After three blind screenings by experienced judges, 151 teams were selected to participate in the YIC 2019 Grand Final. Training and guidance have been provided to selected teams through online videos uploaded to our YouTube channel. We also conducted Facebook live Training for the students.

The Grand Final was held at the Malaysian Global Innovation and Creativity Centre (MAGIC) in Cyberjaya from 7 am to 5 pm on 21 September 2019. A total of 131 teams participated in the Grand Final as few teams withdrew their applications before the event. The team of over 90 judges assessed the inventions and presentations made by the participants for 2.5 hours.

The prizes were awarded in the following categories: Platinum Award, Gold Award, Silver Award, Bronze Award, Invention Pitch Video Competition, Project Paper Writing Competition and Best Proposal Write-Up.

This year, the Young Inventors Challenge was funded and supported by the Malaysian Global Innovation & Creativity Centre (MAGIC), JACTIM Foundation, Tenaga Nasional Berhad (TNB), IJM Corporation Berhad, Allianz Malaysia Berhad, and Asian Food Ingredients Sdn Bhd.

In conclusion, YIC 2019 was a successful event with an increasing number of countries expressing interest in participating in the grand finale. The participants came up with various inventions ideas, and it should be noted that the judges, guests and VIPs were impressed by their explanations and presentations.

# ***ABOUT ASTI***

The Association of Science, Technology, and Innovation (ASTI) is an association of educators, scientists, industry representatives, and individuals who are committed in advancing the role of the scientific community in inspiring the youth of the nation to join and excel in science and other related themes.

The members aspire to revolutionize the method of teaching, understanding, and awareness of the vital role Science, Technology, and Innovation (STI) plays in fulfilling the economic, health, and environmental requirements of the world.

ASTI was set-up by the founders of the Science Fair for Young Children (SFYC) on 25th October 2012.

## ***ASTI'S VISION***

To be the premier association in Malaysia for the promotion of education & understanding in scientific knowledge, technological advancement, and innovative projects both locally and internationally.

## ***ASTI'S MISSION***

To provide leadership in science education and technical support to improve and grow awareness in all areas of sciences through generation, dissemination, and exchange of information & services.

## ***ASTI'S OBJECTIVES***

We provide encouragement & support to the young generation through a variety of activities that can develop & help creativity, invention & innovative results in science, technology & innovation.

# 1 INTRODUCTION & BACKGROUND

The Association of Science, Technology, and Innovation (ASTI) is a non-governmental and non-profit oriented organization (NGO) working towards empowering young children's interest in science through the act of doing where learning is achieved from discovering scientific principles themselves. In order to achieve this vision ASTI has piloted and run various projects and has successfully gained traction on programs such as the Science Fair for Young Children (SFYC), Young Inventors Challenge (YIC), Creative, and Critical Thinking Camp (CCTC), and others. Each of these programs is interlinked in order to provide a platform for participation for a child that is holistic and inclusive in nature depending on the individual stage of development.

YIC is at the pinnacle of the vision, where it requires teams of up to 4-5 members to put their minds together and come up with an invention. The purpose of the program is to build and encourage the creative and inventive capability of young people. ASTI started this program in 2013 as a pilot where 12 teams participated from 12 schools, and the response has been remarkable ever since – the project has been growing at almost 100 percent year on year with over 100 teams participating and 3000 number of students exposed to the program. ASTI is proud to mention that Young Inventors Challenge has received international recognition from the Ministry of Education Malaysia for the year 2017 and 2018.

- The Young Inventors Challenge 2013 (YIC 2013) theme was "GREEN INVENTIONS: IDEAS ON SUSTAINABILITY". A total of 12 teams from all over the country participated in this pilot project, showcasing their green inventions at Wisma Belia on the 24th August 2013.
- In 2014, the theme was kept the same; "GREEN INVENTIONS: IDEAS ON SUSTAINABILITY" and a total of 49 teams participated in the Grand Finale which was held at Dewan Dr.Siti Hasmah, Rumah Puspanita on the 20th September 2014.
- For 2015, ASTI expanded the competition more, and the theme was "INVENTIONS TO HELP A MILLION: TO MAKE THE WORLD A BETTER PLACE". A total of 145 proposals from various teams were received, and 63 teams were shortlisted to participate in the Grand Finale. The final competition was held at Sunway University on 19th September 2015. The Grand Finale was attended by 52 teams from all over the world.
- A new theme "INVENTION TO SERVE ..." was introduced in 2016. We have received 204 proposals from 292 registrations. To compete in the Grand Finale, we have shortlisted 80 teams. The selected teams received training sessions in Penang, Johor, Pahang, KL&Selangor, Sabah, Sarawak and the Philippines. The final competition was held at Sunway University on October 15, 2016 with the participation of 67 teams.

- In 2017 ASTI expanded the competition even wider where we targeted 100 teams from Malaysian and ASEAN countries. The theme was kept the same “INVENTIONS TO SERVE...” and we received 372 proposals from 480 registrations from 5 countries including Malaysia, Indonesia, Singapore, Thailand and Philippines. We have shortlisted 117 teams to participate in the Grand Finale. Online Students Training was conducted from May-June 2017 for the shortlisted teams. The final competition was held on 30 September 2017 at the CIDB Convention Centre, Cheras, with 102 teams participating.
- In 2018, the theme was maintained as “INVENTIONS TO SERVE...”. The project has been implemented in three phases.: Phase One: The student's proposal submission; We have received 634 applications, of which 438 teams have submitted various invention proposals. Phase Two: Online Students Training session for selected participants; Online training for the chosen teams consists of 5 training videos. The Final Phase: Grand Finale; The Young Inventors Challenge 2018 Grand Final took place on 22 September 2018 at the CIDB Convention Centre, where a total of 126 teams from all over Malaysia, the Philippines, Thailand, Singapore, Indonesia and China participated.

YIC 2019 is our 7th-year event, and we have launched a new theme, “**Sustainable Development Goals (SDGs)**”. This year, we received 446 applications, of which 286 teams submitted various invention proposals. We have shortlisted 151 teams with the best invention ideas from all over Malaysia, the Philippines, Thailand, Singapore, Indonesia, Brunei, Vietnam, China and Timor Leste to compete in the Grand Finale. The Grand Finale took place on 21 September 2019 at the Malaysian Global Innovation & Creativity Centre (MAGIC) with 131 groups showcasing and presenting various innovation ideas

## AIMS & OBJECTIVES

The aim and objectives of YIC are:

- To develop future inventors.
- To give an opportunity to young and future inventors to develop and showcase their inventions.
- To help young inventors to experience the inventive cycle, from conceptualisation to product/prototype.
- To introduce the idea of “using inventions as a tool to make a positive change in society”.
- To give opportunities to young people who are inventive to promote their ideas to the outside world.

By participating in YIC, the participants would also:

- Produce an original invention and receive recognition for participating in the event.
- Meet and network with other inventors who share a similar passion.
- Develop creative and innovative thinking skills.
- Develop teamwork dynamics to solve problems.
- Use resources such as the internet, library and experts to hone their research skills.
- Learn to document their invention project.
- Enhance self-esteem and confidence.
- Acquire public presentation and writing skills.

# TARGET GROUP

- Young people aged between 13 and 17 (Form 1 to 5).
- A team of 4 – 5 young people.
- Teams made up of different cultural background (Highly Encouraged).

# PREFERRED OUTPUT AND OUTCOME

Preferred Output	Preferred Outcomes
Understand the invention thinking process	Creation of a network of young Inventors
Understand the Theme: Sustainable Development Goals (SDGs)	Young people understand, and practice/ apply Sustainable Development Goals (SDGs)
Learn to communicate invention process via Invention Pitch Video	Young People with confidence to think and communicate with creative and critical thinking
Learning to communicate invention via writing project paper competition	A community of young people who can express their thinking via writing
Learning to work in a team using a collaborative approach	Young people who can work in a multidisciplinary and collaborative manner
Understand project creation and management processes and tools	Young people at the ability to start and complete a project
Ability to produce a functional prototype	Young people who can develop real solutions and products

**Table 1:** Preferred Output and Preferred Outcome



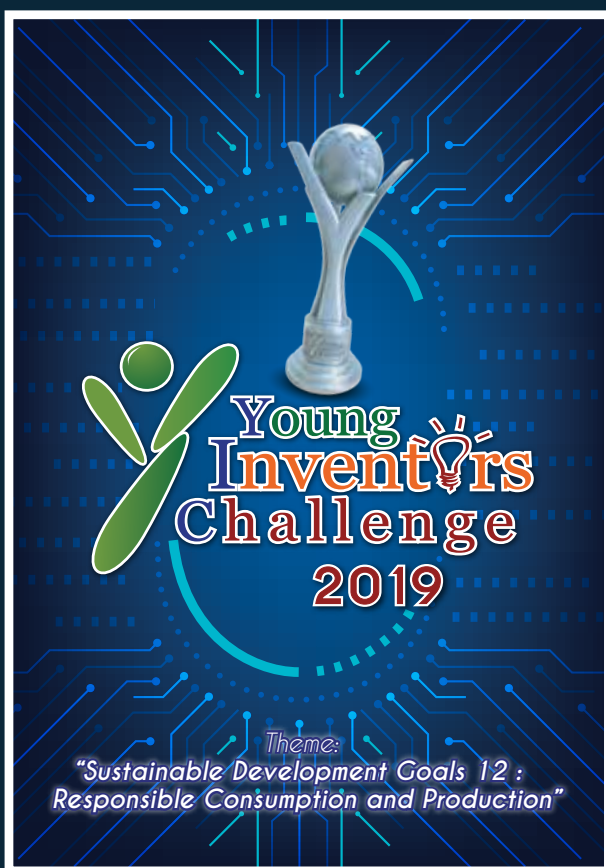


# 2 **MODE OF IMPLEMENTATION**

## **PUBLICITY - SENDING OUT LETTERS**

- Information flyers and applications calls were sent to 2600 randomly selected schools throughout Malaysia in December 2018 and January 2019.
- We have managed to send flyers and letters to the following school types:
  - Maktab Rendah Sains Mara (MRSM)
  - Sekolah Berasrama Penuh
  - Sekolah Bestari
  - Sekolah Berprestasi Tinggi
  - Sekolah Kluster Kecemerlangan
  - International Schools
  - Private Schools
  - ASEAN Countries Embassies
  - Previous Year's Participants
- Several phone call follow-ups and "word of mouth" ads have also been done.





## The Competition...

The **Young Inventors Challenge 2019** is our 7th Invention/Innovation competition which aims to encourage secondary school students aged between 13-17 to cooperate as a team (4-5 students) to find innovative solutions to current-day problems.

Additionally there are 2 competitions, a written report and a short video competition if there are any interest.

## The Organizer...

**Association of Science, Technology and Innovation (ASTI)** is a non-governmental organization (NGO) and also a non-profit oriented organization working towards empowering young children through various projects such as **Science Fair for Young Children (SFYC)**, **Young Inventors Challenge (YIC)**, **Creative and Critical Thinking Camp (CCTC)**, **ASTI Leap Challenge (ALC)**, **Wings of Fire Series** and **ASTI outreach programmes**.

## The Objective...

- To develop future inventors/innovators.
- To give an opportunity to young and future inventors/innovators to develop and showcase their inventions/innovations.
- To help young inventors/innovators to experience the inventive cycle, from conceptualisation to product/prototype.
- To introduce the idea of "using inventions/innovations as a tool to make a positive change in society".
- To give opportunities to young people who are inventive to promote their ideas to the outside world.

## The Awards...

- **3 Best Proposals** will receive RM 500, RM 300 and RM 200 respectively
- **1 X Platinum Award** - RM 2500 with Certificates, medals and Challenge Trophy
- **2 X Gold Awards** -RM 2000 each with Certificates and medals
- **3 X Silver Awards** -RM 1500 each with Certificates and medals
- **4 X Bronze Awards**-RM 1000 each with Certificates and medals
- All participants will be awarded a Certificate of Participation.

## Who Can Participate?

- Secondary school students aged between 13 and 17 or Form 1 to 5.
- A team of 4 – 5 young people.
- Teams made up of different races & cultures are highly encouraged.
- Able to write a proposal and do presentation in the English Language.

## What TEAMS have to do?

The United Nation's Sustainable Development Goals (SDG) are the blueprint to achieve a better and more sustainable future for all. They address the global challenges we face, including those related to poverty, inequality, climate, environmental degradation, prosperity, and peace and justice. There are 17 SDG all together, GOAL No.12 speaks about "Responsible Consumption and Production". Waste in all forms has been a global issue. Refer to:-  
<https://www.un.org/sustainabledevelopment/sustainable-consumption-production/>

This year's YIC theme is: Invention to address issues discussed in SDG No.12. You are required to invent a product and/ or process and /or experiments that is able to provide a resolution in some form and has an impact on SDG 12. Participants are required to innovate and aim to produce a working prototype, experiment and/ or a scaled model. A report write-up and a video presentation is also required to ascertain the commercial viability of the participant's invention.

## HOW TO PARTICIPATE?

- Form a Team of 4 or 5 people
- Email (yic2510@gmail.com) /Fax (603-7872 9551) your team's details by the **28 February 2019**
- ASTI emails out Young Inventors Challenge Students Manual and Proposal Writing Online Video
- Develop the invention proposal based on the Students Manual and Proposal Writing Online Video
- Submit invention proposal to ASTI by the **28 March 2019**
- Shortlisted teams will be notified via email by **8 May 2019** and required to pay commitment fee of USD 100 per Team within 2 weeks of the notification.  
(Booth and Food will be provided for all the participants)
- Shortlisted teams will be guided with Online Training **May –June 2019**
- 3 months to develop inventions
- Inventions prototype showcased at the Grand Finale in **September 2019**



For further details, kindly contact:  
**Ms. Vanitha Vasu**

**Association of Science, Technology and Innovation (ASTI)**  
No.16A, Jalan 21/12, Sea Park, 46300 Petaling Jaya, Selangor Darul Ehsan  
Tel: 03-7877 8571 / 03-7865 5557 Fax: 03-7872 9551 Email: yic2510@gmail.com

**www.asti.org.my**

# ***PARTICIPANTS APPLICATION***

- Interested students were requested to form a team of 4-5 people.
- Each team is required to have at least one Mentor and submit their application to ASTI.
- ASTI had received a total of 446 applications as of 28 February 2019.
- Once the applications were received, the teams were sent an email with the Students' Manual and Online Training Video as a guideline for the preparation of their Invention proposals. They were given a month to submit their invention proposals (28/2/2019-28/3/2019).

# ***PROPOSAL SUBMISSION BY PARTICIPANTS***

- As of 5 April 2019, ASTI received a total of 286 proposals with a wide range of ideas related to the theme from Malaysia, Indonesia, Thailand, China, Singapore, Brunei, Myanmar, Vietnam, Philippines and Timor Leste.
- This year, we have received proposals from several new countries, including Brunei, Myanmar, Vietnam and Timor Leste.

# ***THE JUDGING PROCESS: PROPOSAL MARKING AND SHORTLISTING***

- Each proposal has been blindly reviewed by three different judges.
- The judges received the proposals together with the marking spreadsheet and the guideline for marking, via email.
- A total of 40 judges who are academic and industry experts from across the nation have volunteered their time to evaluate the proposals.
- The result of each proposal was cross-referenced.
- 151 best proposals were shortlisted, and the shortlisted teams were notified by e-mail on 8 May 2019.
- Table 2 shows the breakdown of applications received, proposals received and shortlisted teams for YIC 2019 by state in Malaysia and other countries.

No	State	Application Received	Proposal Received	Shortlisted Team
1	Kedah	5	4	2
2	Perlis	0	0	0
3	Penang	14	11	8
4	Perak	15	9	3
5	Selangor	73	47	14
6	W.P.KL	3	3	2
7	Negeri Sembilan	14	12	6
8	Melaka	3	1	1
9	Johor	31	20	9
10	Pahang	18	7	2
11	Kelantan	6	1	1
12	Terengganu	3	1	1
13	W.P.Putrajaya	1	0	0
14	W.P.Labuan	0	0	0
15	Sabah	54	27	14
16	Sarawak	52	39	18
17	Philippines	46	36	26
18	Thailand	55	31	15
18	Indonesia	3	3	3
20	Singapore	2	2	2
21	Brunei	7	2	2
22	Myanmar	2	0	0
23	Vietnam	34	25	18
24	China	4	4	3
25	Timor Leste	1	1	1
<b>Total Teams</b>		<b>446</b>	<b>286</b>	<b>151</b>

**Table 2:** Breakdown of Applications Received, Proposals Received and Shortlisted Teams

# 3 ONLINE TRAINING

In order to ensure that the training methodology is consistent and standardized for all the shortlisted participants, the working group has decided to maintain online training methods as in previous years. Online training was selected as the working group also takes into account the cost-effective way of providing training to the shortlisted participants.

## PREPARATION OF THE ONLINE TRAINING VIDEO

- The online video training module and script was developed by ASTI's R&D department with the help of Mr. Benjamin Iqbal, a trained educator at Cambridge University.
- The voice-over talent was identified, and the video recording of the online training was completed.

## PUBLISHING ONLINE TRAINING VIDEO TO THE PARTICIPANTS

- Online Training Videos were published every Monday, starting from June 3rd, 2019. Table 3 shows the list of published videos for training:

Publishing Dates	Training Video	Title
3rd June 2019	Training Video 1	The YIC Journey
10th June 2019	Training Video 2	Invention and Intellectual Property
17th June 2019	Training Video 3	Project Management and Report Writing
24th June 2019	Training Video 4	Mentoring
1st July 2019	Training Video 5	Judging Criteria and Report Structure

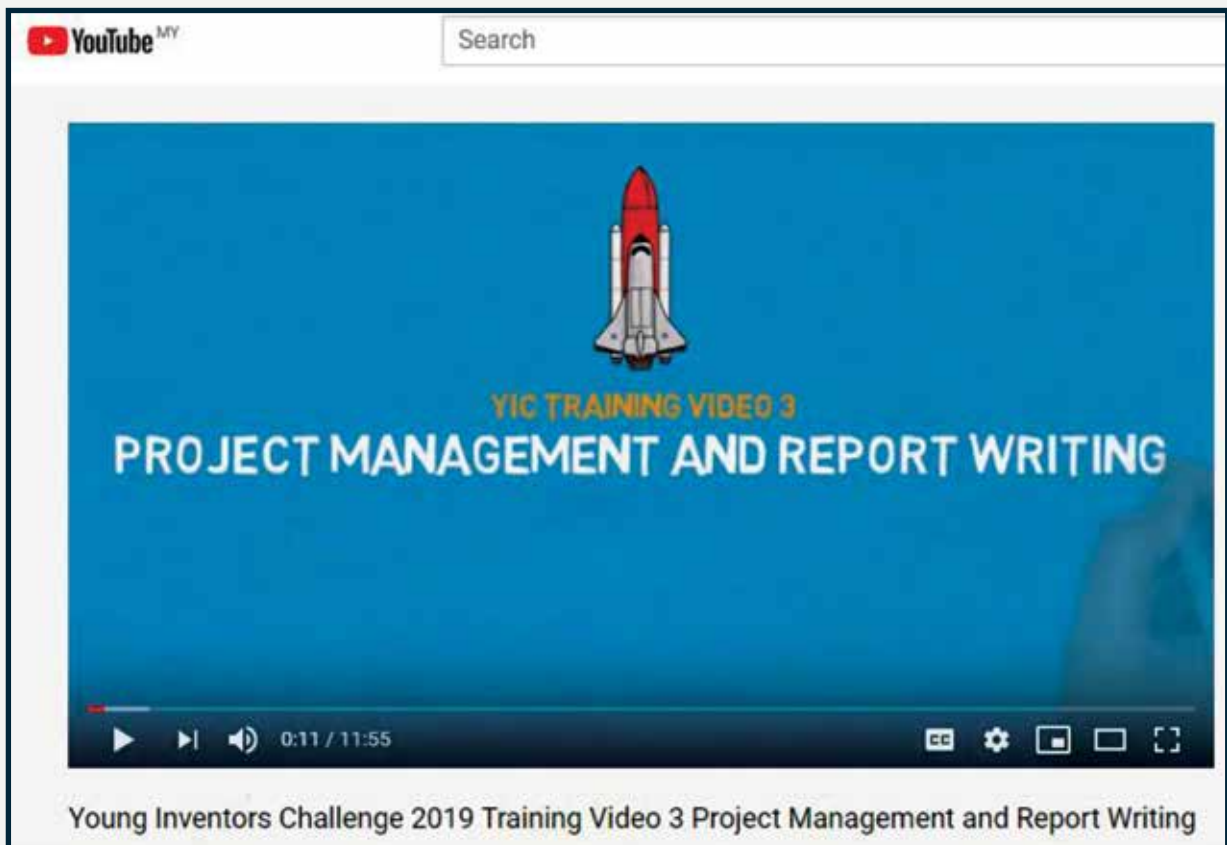
**Table 3:** List of Training Videos



YIC 2019 Online Training Video 1



YIC 2019 Online Training Video 2



**YIC 2019 Online Training Video 3**



**YIC 2019 Online Training Video 4**



YIC 2019 Online Training Video 5



# FACEBOOK LIVE TRAINING

- For the first time, the YIC 2019 working group committee decided to provide Facebook Live Training for the shortlisted participants.
- The Facebook Live Training was conducted on Friday, 9 August 2019 from 7.00pm to 8.30pm.
- Mr. Anandan Shanmugam and Mr. Ramesh Subramaniam participated in and shared with the participants some guidance and tips on the final preparations for the Grand Finale.
- The Facebook live training has reached up to 2,563 people and the response was overwhelming.



YIC 2019 Facebook Live Training

# 4 THE GRAND FINALE

## YIC 2019 PARTICIPANTS

A total of 151 teams were shortlisted to take part in the Young Inventors Challenge 2019 Grand Finale. Despite the early withdrawal of a few teams one day before the competition, the final count was 135 teams. Nonetheless, the total number of Grand Finals teams was 131, as four other teams did not appear during the registration. Each team is made up of 4 to 5 students between the ages of 13-17 from different cultural backgrounds. It was compulsory to have 1 or 2 mentors, and the mentors were mostly either educators, parents or professionals. Table 4 shows the List of Teams Participated in YIC 2019.

No	School Name	State/Country	Team Name
1	CHUNG HWA MIDDLE SCHOOL, B.S.B	BRUNEI	CHUNG HWA MIDDLE SCHOOL
2	NANJING HANKAI ACADEMY, CHINA	CHINA	DONUTS WITHOUT HOLES
3	NANJING HANKAI ACADEMY, CHINA	CHINA	COOL CAR
4	NANJING HANKAI ACADEMY, CHINA	CHINA	RED STAR-DOUBLE SWITCHED BOTTLE
5	SMA NEGERI 1 CISARUA	INDONESIA	SMANCIS SC
6	SMA NEGERI 1 KEDUNGPRING	INDONESIA	SANTI BASUKI
7	SMA NEGERI BANUA KALIMANTAN SELATAN	INDONESIA	PAKE-KA
8	EXCELSIOR INTERNATIONAL SCHOOL	JOHOR	TWO-HUNDRED%
9	FAIRVIEW INTERNATIONAL SCHOOL, JOHOR	JOHOR	B GROUP
10	FAIRVIEW INTERNATIONAL SCHOOL, JOHOR	JOHOR	DAISUKE INNOVATION
11	SMK DATO JAAFAR, JOHOR BAHRU	JOHOR	5 STAR INVENTORS
12	SMK DATO JAAFAR, JOHOR BAHRU	JOHOR	ORGANIC TEAM
13	REGENT INTERNATIONAL SCHOOL SUNGAI PETANI	KEDAH	ACE TRIBE
14	REGENT INTERNATIONAL SCHOOL SUNGAI PETANI	KEDAH	ECO GENIUSES

No	School Name	State/Country	Team Name
15	SMK SERI BINTANG UTARA, CHERAS	KL	YOUNG WOMEN SCIENTISTS
16	MRSM ALOR GAJAH, MELAKA	MELAKA	AG 2-IMAGINATORS
17	SMK SERI PAGI SEREMBAN	NEGERI SEMBILAN	HBS CREW
18	MRSM KUALA KRAWANG, NEGERI SEMBILAN	NEGERI SEMBILAN	LUMIERE
19	KOLEJ PERMATA INSAN	NEGERI SEMBILAN	ILLCIT
20	KOLEJ PERMATA INSAN, NILAI, UNIVERSITY SAINS ISLAM MALAYSIA	NEGERI SEMBILAN	IMITATORS
21	UCSI INTERNATIONAL SCHOOL IN SPRING HILL	NEGERI SEMBILAN	LITTLE CHAMPS
22	REGENT INTERNATIONAL SCHOOL KUANTAN	PAHANG	REGENT SAVVY'S
23	REGENT INTERNATIONAL SCHOOL KUANTAN	PAHANG	REGENT BRAINSTORMERS
24	SMK (P) ST. GEORGE, PENANG	PENANG	MARTIANS
25	SMJK JIT SIN, PULAU PINANG	PENANG	BOUNCING GRASS
26	SMK ABDULLAH MUNSHI	PENANG	THE JUNIOR INNOVATORS
27	SMJK CHUNG LING PULAU PINANG	PENANG	NOVUS
28	SMJK CHUNG LING PULAU PINANG	PENANG	INNOVATORZ
29	SMK ABDULLAH MUNSHI	PENANG	MUNSHI INVENTORS-SAS
30	DALAT INTERNATIONAL SCHOOL, TANJUNG BUNGAH	PENANG	DALAT DOMINATORS
31	SMJK AVE MARIA CONVENT IPOH	PERAK	WARRIORS OF STRAW WARS
32	SMK AMINUDDIN BAKI, CHEMOR	PERAK	ABC YOUNG INVENTOR
33	SABK MAAHAD AL TARBIAH AL ISLAMIAH CHANGKAT JERING	PERAK	MATARIS SYABAB 2019
34	PHILIPPINE SCIENCE HIGH SCHOOL, CORDILLERA ADMINISTRATIVE REGION CAMPUS	PHILIPPINES	SIOMAI ORYZA SATIVA-BAYANIHAN
35	ILIGAN CITY EAST NATIONAL HIGH SCHOOL, STA. FILOMENA, ILIGAN CITY,	PHILIPPINES	ECO-ACTIVISTS OF THE ORIENT SEA

No	School Name	State/Country	Team Name
36	BAYAMBANG NATIONAL HIGH SCHOOL, BAYAMBANG	PHILIPPINES	ASPIRING INTELLIGENT RE-SEARCHERS
37	BAYAMBANG NATIONAL HIGH SCHOOL, BAYAMBANG	PHILIPPINES	COC: CATALYSTS OF CHANGE
38	KABASALAN SCIENCE AND TECHNOLOGY HIGH SCHOOL	PHILIPPINES	KSTHS PARAGONS
39	ILIGAN CITY EAST NATIONAL HIGH SCHOOL, STA.FILOMENA, LANA DEL NORTE,	PHILIPPINES	THE ERUDITES
40	BANSUD NATIONAL HIGH SCHOOL-MIMAROPA REGIONAL SCIENCE HIGH SCHOOL	PHILIPPINES	PANACEA PROBES
41	BANSUD NATIONAL HIGH SCHOOL-MIMAROPA REGIONAL SCIENCE HIGH SCHOOL	PHILIPPINES	RS4S
42	PHILIPPINE SCIENCE HIGH SCHOOL-CORDILLERA ADMINISTRATIVE	PHILIPPINES	CHILI ALLIUM SATIVUM
43	SHALOM CREST WIZARD ACADEMY	PHILIPPINES	ALBACARES
44	SHALOM CREST WIZARD ACADEMY	PHILIPPINES	MATARAP
45	PHILIPPINE SCIENCE HIGH SCHOOL-CAGAYAN VALLEY CAMPUS	PHILIPPINES	ENERHIYA
46	BANSUD NATIONAL HIGH SCHOOL-MIMAROPA REGIONAL SCIENCE HIGH SCHOOL	PHILIPPINES	STAR
47	BANSUD NATIONAL HIGH SCHOOL-MIMAROPA REGIONAL SCIENCE HIGH SCHOOL	PHILIPPINES	H-100
48	PHILIPPINE SCIENCE HIGH SCHOOL-SOCCSKSARGEN REGION CAMPUS	PHILIPPINES	POWER GREENGERS
49	PHILIPPINE SCIENCE HIGH SCHOOL-SOCCSKSARGEN REGION CAMPUS	PHILIPPINES	PARAISO
50	PHILIPPINES SCIENCE HIGH SCHOOL-CENTRAL VISAYA CAMPUS	PHILIPPINES	CREATIVE PINOY
51	PHILIPPINES SCIENCE HIGH SCHOOL-CENTRAL VISAYA CAMPUS	PHILIPPINES	GREENTECH.PH
52	PHILIPPINES SCIENCE HIGH SCHOOL-CENTRAL VISAYA CAMPUS	PHILIPPINES	INNOVISION
53	PHILIPPINES SCIENCE HIGH SCHOOL-CENTRAL VISAYA CAMPUS	PHILIPPINES	PINOY TECHNOVATORS
54	PHILIPPINES SCIENCE HIGH SCHOOL-CENTRAL VISAYA CAMPUS	PHILIPPINES	SAFETYM
55	PHILIPPINE SCIENCE HIGH SCHOOL-CORDILLERA ADMINISTRATIVE	PHILIPPINES	ANAGOLAY
56	ILIGAN CITY EAST NATIONAL HIGH SCHOOL	PHILIPPINES	UNIT-Y

No	School Name	State/Country	Team Name
57	PHILLIPINE SCIENCE HIGH SCHOOL WESTERN VISAYA CAMPUS	PHILIPPINES	VOLTAGE 5
58	PHILIPPINE SCIENCE HIGH SCHOOL- CORDILLERA ADMINISTRATIVE	PHILIPPINES	ECOTOURISM SUSTAINABILITY
59	SM ALL SAINTS, SABAH	SABAH	AMONINOUS BESTARIAN (THE UNCALLED FOUR)
60	SM ALL SAINTS, SABAH	SABAH	BOKU
61	SM ALL SAINTS, SABAH	SABAH	SLIPKNOT
62	SMK TAUN GUSI DUA, KOTA BELUD	SABAH	CRYSTAL TEAM
63	SMK PEKAN TELIPOK, TUARAN	SABAH	VERDAN VALKYRIES
64	SMK PEKAN TELIPOK, TUARAN	SABAH	THE PHOENIX
65	SMK PEKAN TELIPOK, TUARAN	SABAH	SHIELD OF FAITH
66	SMK ST JOSEPH, PAPAR	SABAH	JOSEPHIAN'S STARS
67	SMK TUN FUAD STEPHENS, TUARAN	SABAH	INNOVATORS SQUAD
68	SMK ST. JOHN (M), TUARAN	SABAH	THE YIC GENERATION
69	SMK ST. JOHN (M), TUARAN	SABAH	GALAXYFONE
70	SM ST MICHAEL, PENAMPANG SABAH	SABAH	TEAM HOMIES
71	SM ST MICHAEL, PENAMPANG SABAH	SABAH	TEAM ZOUG
72	SMK SIMANGGANG, SARAWAK	SARAWAK	SIMANGGANG SCIENCE CLUB
73	SMK KUCHING HIGH	SARAWAK	SMILEYFACE
74	SMK BUKIT ASSEK SIBU SARAWAK	SARAWAK	INDOOR LED AQUAPONIC PLANTER
75	KOLEJ DATU PATINGGI ABANG HAJI ABDILLAH KUCHING	SARAWAK	AVOGADRO'S ANGELS
76	KOLEJ DATU PATINGGI ABANG HAJI ABDILLAH KUCHING	SARAWAK	WUNDERKINDS - CAPELLA
77	KOLEJ DATU PATINGGI ABANG HAJI ABDILLAH KUCHING	SARAWAK	CAESER CIPHER
78	KOLEJ DATU PATINGGI ABANG HAJI ABDILLAH KUCHING	SARAWAK	STARDUST CRUSADERS
79	SMK ST. COLUMBA	SARAWAK	KOKO
80	KOLEJ DATU PATINGGI ABANG HAJI ABDILLAH KUCHING	SARAWAK	THE INNOLYST
81	SMK ST. JOSEPH MIRI	SARAWAK	THE SENIOR AND THE JUNIOR- THE GRAPHITE ATOMS
82	SMK ST THOMAS, KUCHING	SARAWAK	ORBIT
83	SMK ROSLI DHOBY	SARAWAK	STAMPEDE
84	SMK MERBAU MIRI	SARAWAK	SUMMER PARADISE
85	SMK MERBAU MIRI	SARAWAK	ADV 2.1
86	SMK MERAPOK, LAWAS	SARAWAK	THE I-NOVATOR
87	KOLEJ DATU PATINGGI ABANG HAJI ABDILLAH KUCHING	SARAWAK	THE JAMES CHADWICK & THE SON
88	SAM BAGAN TERAP, SUNGAI BESAR	SELANGOR	AIM STOMMER SAMBATER

No	School Name	State/Country	Team Name
89	SMK BANDAR UTAMA 3, SMJK KATHOLIK, SMK DAMANSARA JAYA, WESLEY METHODIST SCHOOL KUALA LUMPUR (INTERNATIONAL), ARROWS RESOURCE CENTRE	SELANGOR	NIGHTHAWK
90	MAZ INTERNATIONAL SCHOOL, PETALING JAYA	SELANGOR	PARALLAX
91	MAZ INTERNATIONAL SCHOOL, PETALING JAYA	SELANGOR	BALD EAGLES
92	SMK DAMANSARA UTAMA, SEKOLAH SRI KDU & SEK.MEN.VICTORIA INSTITUTION	SELANGOR	MALAYAN PANTHERAS
93	SEKOLAH MENENGAH SAINS KUALA SELANGOR	SELANGOR	OBLIVION
94	SEKOLAH MENENGAH SAINS KUALA SELANGOR	SELANGOR	ELECTRONZ
95	SEKOLAH MENENGAH SAINS KUALA SELANGOR	SELANGOR	NEUTRON
96	SEKOLAH MENENGAH SAINS KUALA SELANGOR	SELANGOR	SPECKIES
97	SEKOLAH MENENGAH SAINS KUALA SELANGOR	SELANGOR	FANTASTIC FOUR
98	SMK SEKSYEN 4 BANDAR KINRARA	SELANGOR	LITTLE DARVINS
99	SCHOOL OF SCIENCE AND TECHNOLOGY	SINGAPORE	TEAM AWAH
100	SCHOOL OF SCIENCE AND TECHNOLOGY	SINGAPORE	TEAM ARCHYTAS
101	PRINCESS CHULABHORN SCIENCE HIGH SCHOOL PATHUM THANI	THAILAND	NEWBIE TIGER
102	PRINCESS CHULABHORN SCIENCE HIGH SCHOOL PATHUM THANI	THAILAND	POWERPUFF X THE BOND
103	PRINCESS CHULABHORN SCIENCE HIGH SCHOOL PATHUM THANI	THAILAND	THUNDER TIGER
104	PRINCESS CHULABHORN SCIENCE HIGH SCHOOL PATHUM THANI	THAILAND	WISDOM WOLF
105	BUNYAWAT WITTHAYALAI SCHOOL, LAMPANG, THAILAND	THAILAND	THE CONQUERORS
106	THUNGYAIWITTHAYAKOM	THAILAND	DAIMOND DEBUT
107	PRINCESS CHULABHORN SCIENCE HIGH SCHOOL LOEI	THAILAND	IRON OXIDE
108	CHULALONGKORN UNIVERSITY DEMONSTRATION SECONDARY SCHOOL	THAILAND	CUD SMART PLUG
109	VAREE CHIANGMAI INTERNATIONAL SCHOOL	THAILAND	INOVATIVE-INOVAION
110	VAREE CHIANGMAI INTERNATIONAL SCHOOL	THAILAND	THE NEW CONCEPT

No	School Name	State/Country	Team Name
111	PRINCESS CHULABHORN SCIENCE HIGH SCHOOL LOEI	THAILAND	WASTE WATER TREATMENT
112	PRINCESS CHULABHORN SCIENCE HIGH SCHOOL NAKHON SI THAMMARAT	THAILAND	LITTLE BOY
113	VAREE CHIANGGMAI SCHOOL, CHIANG MAI	THAILAND	VAREE YOUNG SCIENTIST CLUB 1
114	SATREE TUNG SONG SCHOOL	THAILAND	SOURCE GREEN ENERGY
115	SECONDARY SCHOOL DILI, TIMOR LESTE, HOSPITALITY AND TOURISM SCHOOL	TIMOR LESTE	TILES YOUTH
116	GIANG VO SECONDARY SCHOOL, HANOI	VIETNAM	POSEIDON
117	GIANG VO SECONDARY SCHOOL, HANOI	VIETNAM	OCEAN TEAM
118	TRUNGVUONG SECONDARY SCHOOL, HOAN KIEM DISTRICT, HANOI	VIETNAM	GRAVITY
119	TRUNGVUONG SECONDARY SCHOOL, HOAN KIEM DISTRICT, HANOI	VIETNAM	MAGICIANS
120	DICH VONG HAU SECONDARY SCHOOL CAU GIAY DISTRICT, HANOI	VIETNAM	FREEDOM
121	DICH VONG HAU SECONDARY SCHOOL CAU GIAY DISTRICT, HANOI	VIETNAM	HOPE
122	NGO SI LIEN SECONDARY SCHOOL, HOAN KIEM, HANOI	VIETNAM	THE THINKERS
123	NGO SI LIEN SECONDARY SCHOOL, HOAN KIEM, HANOI	VIETNAM	VISION
124	NGO SI LIEN SECONDARY SCHOOL, HOAN KIEM, HANOI	VIETNAM	THE GUARDIANS
125	NGO SI LIEN SECONDARY SCHOOL, HOAN KIEM, HANOI	VIETNAM	THE DREAM CHASERS
126	DOAN THI DIEM SECONDARY SCHOOL, HANOI	VIETNAM	T-ONE
127	HANOI STAR SECONDARY SCHOOL, HANOI	VIETNAM	DYNAMIC 5.0
128	HANOI PRIMARY AND SECONDARY SCHOOL, HANOI	VIETNAM	MIRACLE
129	HANOI PRIMARY AND SECONDARY SCHOOL, HANOI	VIETNAM	THE DESIGNERS
130	HANOI PRIMARY AND SECONDARY SCHOOL, HANOI	VIETNAM	KWIN CHEESE
131	HANOI PRIMARY AND SECONDARY SCHOOL, HANOI	VIETNAM	WATER BUCKET

# THE GRAND FINALE SUMMARY

## Arrival, Registration and Breakfast

YIC 2019 was held on 21st September 2019 at the Malaysian Global Innovation & Creativity Centre (MAGIC). Participants began arriving as early as 6.30 am, and the registration started at 7.00 am. Upon completion of the registration process, breakfast was offered to the participants. A total of 131 teams have registered for the competition. Participants are allowed to set up their booths and models of innovation after the registration and breakfast sessions.



## Booth Setup, Model Setup and Opening Ceremony

Upon setting up the booths and models, the opening ceremony took place at approximately 9.15 am. Following the opening ceremony, the winners of Best Proposal Write-Ups, Invention Pitch Video Competition and Project Paper Writing Competition have been announced.



## Judging

The Judging process took place at 10.00 am. The inventions were judged by more than 90 judges, which include university lecturers, scientists, environmental consultants, intellectual property experts, etc. The participants presented various inventions during the judging process which lasted almost took 2.5 hours.



## Mentor Seminar Session

This year's mentor seminar focused on 'The Future of Learning' and was attended by all the mentors. The Mentor Seminar Session took place at the Auditorium from 10.30 am. till 1.00 pm., while the judging and cross judging process was going on. Table 5 shows the agenda of the Mentor Seminar Session.

Time	Topic of Discussion	Speaker
10.30am to 10.45am	Introduction to ASTI and YIC	<b>Dr. Mohamed Yunus Yasin</b>
10.45am to 11.20am	<b>Session 1:</b> "STEM Education – Immersive Technology & Coding" <ul style="list-style-type: none"> <li>Immersive Learning Technology</li> <li>Robotics and coding</li> </ul>	<b>Ms. Latha Thangaraja</b> Stem Education Senior Coordinator Almotahida Education Group Sdn Bhd  <b>Ms. Simran Kumar</b> Stem Education Coordinator Almotahida Education Group Sdn Bhd
11.20am to 11.50am	<b>Session 2:</b> 'Don't Let School Interfere with Your Learning'	<b>Mr. Pramugh Pathmanaban</b> Founder Director Engineering For Kids Malaysia
11.50am to 12.30pm	<b>Session 3:</b> Integrating 3D Printing into Classroom Teaching	<b>Mr. S. Kumar</b> Chief Executive Officer Cuberlab Sdn Bhd
12.30pm to 12.40pm	Mentor Sharing Session	<b>Mr. Anandan Shanmugam</b>
12.40pm to 1.00pm	Certificate Presentation	<b>Mr. Anandan Shanmugam</b>

**Table 5:** Agenda of Mentor Seminar Session



## Certificate Presentations to Mentors

After the mentor seminar session, the mentors are presented with an appreciation certificate for their continuous support in guiding and encouraging the participants to do their best at the YIC 2019 Grand Finale.



## ***Public Viewing and Certificate Presentation***

The exhibition was opened to the public from 1.00 pm to 3.30 pm. The public was allowed to visit the booths and ask questions to the participants. Our special guests presented certificates of participation to all the teams at their respective booths.



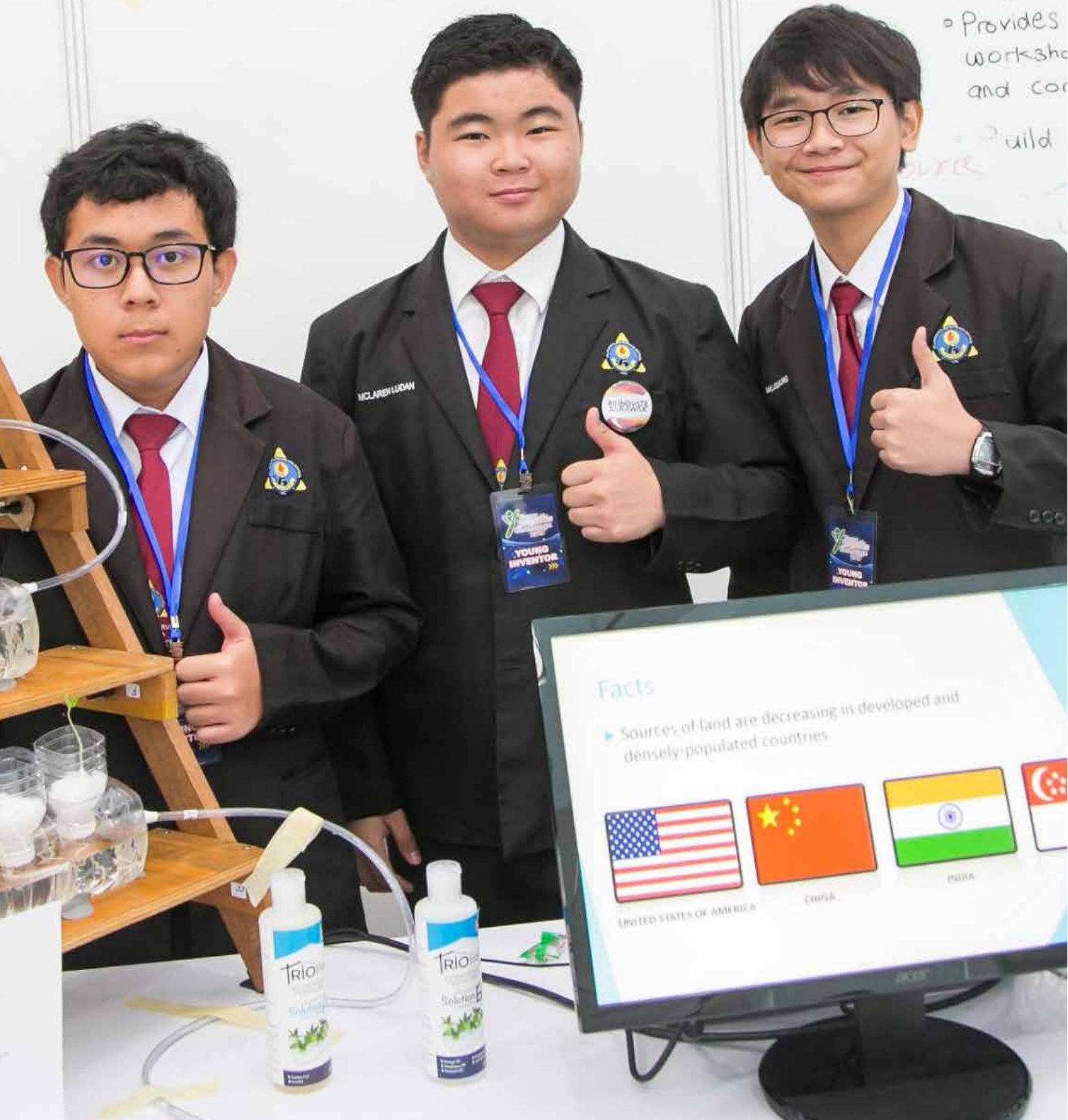
# 101

SARAWAK  
SMK ST JOSEPH WIRI  
THE SENIOR AND THE JUNIOR  
THE GRAPHITE STONE

## MaGIC

- more than
- Grows c
- Encourage
- Emphas
- Provides  
worksho  
and coo
- build  
source

## hydrosol



### Facts

- Sources of land are decreasing in developed and densely-populated countries.



UNITED STATES OF AMERICA



CHINA



INDIA



## Prize Giving Ceremony

Our Guest of Honour **Dr. Anis Bin Mahmud, Deputy Secretary General** (Policy and Entrepreneur Strategy) Ministry of Entrepreneur Development arrived at 3.00 pm.

The VIPs and Guests who attended the event were

**Her Excellency Samkelisiwe Mhlanga**

High Commissioner  
South African High Commission

**Mr. Masahito Hirai**

Director and International Cultural Exchange (ICE) Committee Chairman, Jactim Foundation

**Ms. Dzuleira Abu Bakar**

Chief Executive Officer  
Malaysian Global Innovation & Creativity Centre (Magic)

**Mr. Razif Aziz**

Acting Group Chief Executive Officer  
Cradle Fund Sdn. Bhd

**Mr. Hikaru Shigematsu**

YIC Support In-Charge Committee Member ICE Committee  
Jactim Foundation

**Mr. Kazuki Kimoto**

Secretary General, Jactim Foundation

VVIPs and Guests visited the booths, and the participants were happily present their invention ideas to them.

Ms. Sook Hwa and Ms. Mathura was the master of ceremony for the Closing & Prize Giving Ceremony.

Before the Prize Giving Ceremony began, few of our dignitaries gave their speeches. Mr. Anandan Shanmugam was the first dignitary to give the opening remarks. He said the teams that have participated in YIC in the past have gone abroad and won competitions at international levels such as in Hong Kong. He added that this should not be the end, and the students should continue their inventing journey.

A special multimedia presentation on the journey of YIC 2019 was broadcast to all the guests and participants, following a speech by Mr. Anandan Shanmugam.

The Guest of Honour Dr. Anis Bin Mahmud, Deputy Secretary-General (Policy and Entrepreneur Strategy) Ministry of Entrepreneur Development was then invited to give Tokens of Appreciation to the Funders.



**Ms. Dzuleira Abu Bakar,**  
Chief Executive Officer  
Malaysian Global Innovation &  
Creativity Centre (Magic)



**Mr. Masahito Hirai,**  
Director and International Cultural Exchange  
(ICE) Committee Chairman,  
Jactim Foundation



**Mr. Ramesh Subramaniam,**  
IJM Corporation Berhad



After having done with appreciation for the funders, Dr Mohamed Yunus Yasin has given a token of appreciation to our Honour Guest.

The event was followed by the judging feedback and remarks by Mr. Faizal Noor Batcha, the Chief Judge of YIC 2019. He mentioned his speech that because of so many amazing inventions, the judges had a hard time judging the participants. He added that the judgment was focused on creativity, innovation, competence in presentation and safety measures. He passed the results to the emcees after his speech.



Thanking remark was delivered by Dr. Mohamed Yunus Yasin. Throughout his speech, he urged the participants not to give up and continue their creative journey, regardless of the outcome. He also thanked everyone involved in YIC 2019 to make the event a great success, including the volunteers.



The award ceremony continues with the presentation of awards to the winning teams for the Bronze Award categories, Silver Award categories, Gold Award categories and Platinum Award categories were announced. The details of the winning teams are as below:

### ***Platinum Awards Winner***

School Name: **Philippine Science High School-Soccsksargen Region Campus**

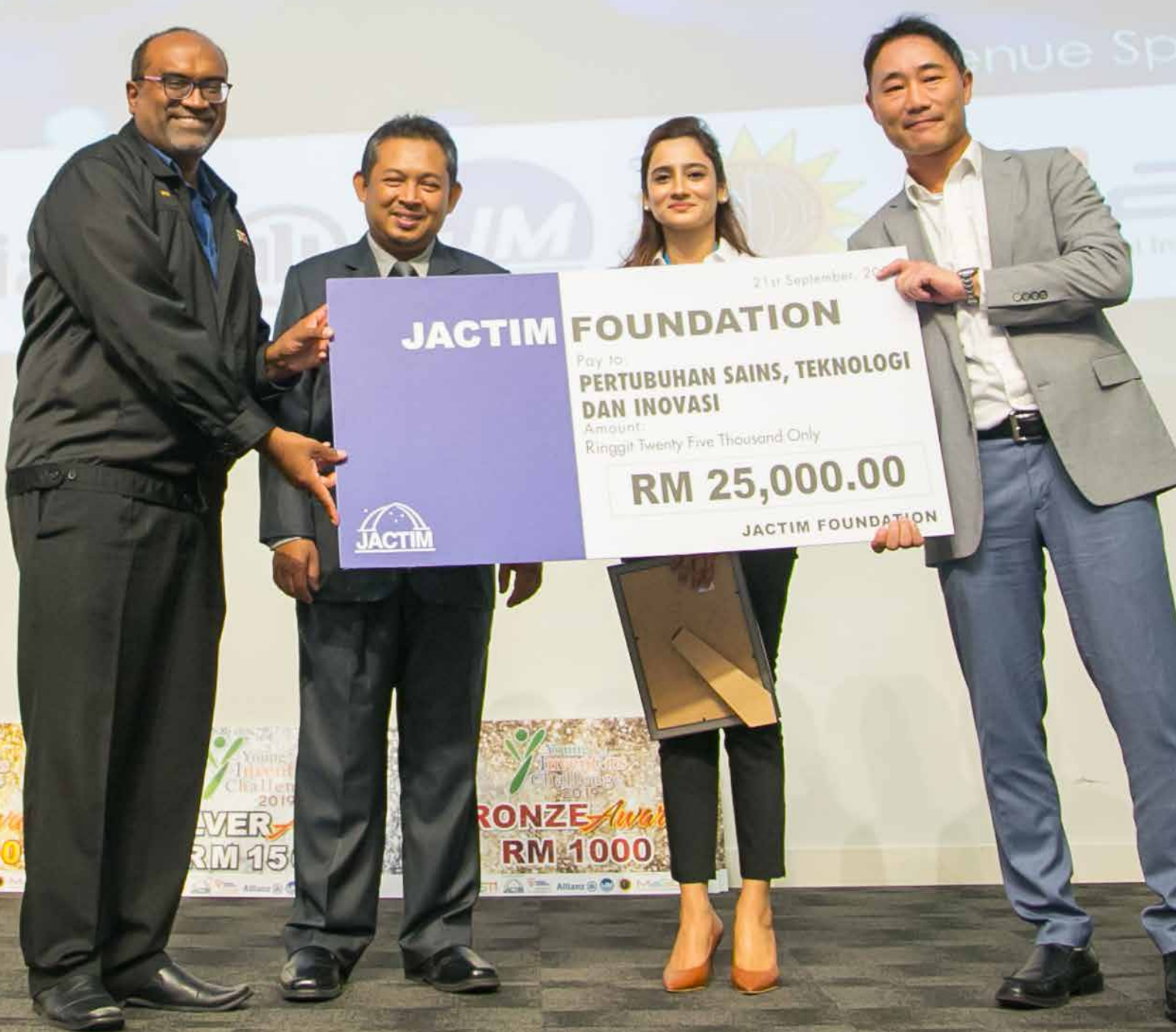
Country: **Philippines**

Team Name: **Paraiso**

Team Invention Title: **Autonomous Radiation Monitoring And Data-Logging Aquatic Vehicle (ArmadaV)**



the 1st  
2019  
September 2019  
m - 4.30 pm  
vation & Creativity Cent  
venue Sp



### **Gold Awards Winners**

School Name : **SMK Bandar Utama 3, SMJK Katholik, SMK Damansara Jaya, Wesley Methodist School Kuala Lumpur (International), Arrows Resource Centre**  
Country: **Selangor, Malaysia**  
Team Name: **Nighthawk**  
Team Invention Title: **Chef De- Bot**

School Name: **SMA Negeri 1 Kedungpring**

Country: **Indonesia**

Team Name: **Santi Basuki**

Team Invention Title: **Biofoam Engkong (Biodegradable Foam From Water Hyacinth As Main Ingredients)**



### **Silver Awards Winners**

School Name: **Phillipine Science High School Western Visaya Campus**  
Country: **Philippines**  
Team Name: **Voltage 5**  
Team Invention Title: **S-Light**

School Name: **SMK Seri Pagi Seremban**

Country: **Negeri Sembilan**

Team Name: **Hbs Crew**

Team Invention Title: **Habox**

School Name: **Philippines Science High School-Central Visaya Campus**

Country: **Philippines**

Team Name: **Safetytm**

Team Invention Title: **Plantier: An Automated Assistive Planting Device**



### **Bronze Awards Winners**

School Name: **Ngo Si Lien Secondary School**

Country: **Vietnam**

Team Name: **The Guardian**

Team Invention Title: **Garboat- Robot Boat Picks Up Garbage On The River.**

School Name: **Kolej Datu Patinggi Abang Haji Abdillah**

Country: **Sarawak, Malaysia**

Team Name: **The Innolyst**

Team Invention Title: **Chalky All The Way**

School Name: **Sekolah Menengah Sains Kuala Selangor**

Country: **Selangor**

Team Name: **Neutron**

Team Invention Title: **C.Y.P.A.A. (Charge Your Phone Anytime And Anywhere)**

School Name: **Shalom Crest Wizard Academy**

Country: **Philippines**

Team Name: **Albacares**

Team Invention Title: **Lumos Altium**



# 5 PROJECT PROPOSAL WRITE-UP

We had received 286 proposals from 446 registrations from 10 countries which include Malaysia, Indonesia, Singapore, Thailand, Philippines, Myanmar, Brunei, Vietnam, Timor Leste and China. We have shortlisted 151 teams to participate in the Grand Finale. We decided to give recognition to the top three teams for best proposal write-up and the details are as shown below. There are two teams sharing the 3rd placing.

## **Winner**

School Name: **Philippine Science High School, Cordillera Administrative Region Campus**  
State / Country: **Philippines**  
Team Name: **Siomai Oryza Sativa-Bayanihan**  
Team Invention Title: **Bahay Kubo: Internet of Things (IoT)-enhanced Arduino-Based Greenhouse for Sustainable Agriculture**

## **1st Runner Up**

School Name: **Bayambang National High School, Bayambang**  
State / Country: **Philippines**  
Team Name: **COC - Catalysts Of Change**  
Team Invention Title: **TiO<sub>2</sub> ReCon: Catalytic Reaction of Titanium Dioxide Nanoparticles – Equipped Detachable Converter for Greenhouse Gases Reduction and Oxygen (O<sub>2</sub>) Conservation**

## **2nd Runner Up**

School Name: **Kolej Datu Patinggi Abang Haji Abdillah Kuching**  
State / Country: **Sarawak**  
Team Name: **Stardust Crusaders**  
Team Invention Title: **Star Platinum**

School Name: **SMK Merapok, Lawas**  
State / Country: **Sarawak**  
Team Name: **The I-Novator**  
Team Invention Title: **Super Bicycle (Super-B)**



# 6 INVENTION PITCH VIDEO COMPETITION

The participating teams were given an opportunity to use 3-minute video to pitch their invention, but it was not made compulsory. The primary purpose of this competition is to give participants an exposure to the creation of a pitch video.

The following guidelines were given to participants to make a pitch video.

- Who You Are? Introduction to Your Team
- What is your invention?
- What is the problem your invention is solving?
- What are the advantages of your invention (compared to other solutions)?
- Why is this an important problem to solve and how does it affect the end-user?
- How your product is going to improve the world by fixing this problem? How does the world look after your solution is implemented? Is everyone happy?
- How are you solving the problem differently?
- What have you done so far to capture new users and how will this evolve over time?

The details of the winning teams are as follows:

## **Champion**

School Name: **Philippines Science High School-Central Visayas Campus**

State/Country: **Philippines**

Team Name: **Agriprotech**

Invention Title: **Cropprotec: A Modular Crop Monitoring And Protection System**

## **1st Runner Up**

School Name: **Sma Negeri 1 Kedungpring**

State/Country: **Indonesia**

Team Name: **Santi Basuki**

Invention Title: **Biofoam Engkong** (Biodegradable Foam From Water Hyacinth As Main Ingredients)

## **2nd Runner Up**

School Name: **Bayambang National High School**

State/Country: **Philippines**

Team Name: **Coc: Catalysts Of Change**

Invention Title: **Tio2 Recon: Catalytic Reaction Of Titanium Dioxide Nanoparticles – Equipped Detachable Converter For Greenhouse Gases Reduction And Oxygen (O<sub>2</sub>) Conservation**



# an Airborne Water Harvester

Idi, Ng Shi Yu, Sean Tan, Naythan Yeo



## TESTING THE CONDITIONS

Pump

Content

The ideal flow rate of the pump was 75%

The ideal concentration of coolant to use was 15%

## 4 HOUR TEST FOR EFFICIENCY

## IMPLEMENTATION

We found that our system can be self-powered with solar panels. Its power consumption is 10 times less than a regular desalination plant. They can be implemented and placed in isolated systems like ships, or stations with water shortage. Although more land area is required, this system would supply and power a continuous and self-sustained water source.

## CONCLUSION

...ustant, we have the efficiency of the ... and proven it through a series of ... we found that the ... able to be self ... it has a very low ...

## KNOWLEDGMENTS

...ould like to thank our Mr. Tan Hec look, Mr. ... team, and dedicated ...



# 7 PROJECT PAPER WRITING COMPETITION

Three-page project paper was requested from the participating teams, but it was not made compulsory. The main objective of this competition is to introduce the concept of writing paper to the participants. A total of 49 teams participated in this competition, and the separate Judging panel was assigned to evaluate the paper. Three best project papers have been chosen, and the winning team details are as follows:

## **Champion**

School Name: **SMK Bandar Utama 3, SMJK Katholik, Smk Damansara Jaya, Wesley Methodist School Kuala Lumpur (International), Arrows Resource Centre**

State/Country: **Selangor**

Team Name: **Nighthawk**

Invention Title: **Chef De Bot-A Smart Kitchen Integrated With Internet Of Things Technology**

## **1st Runner Up**

School Name: **Philippines Science High School-Central Visaya Campus**

State/Country: **Philippines**

Team Name: **Safetym**

Invention Title: **Plantier: An Automated Assistive Planting Device**

## **2nd Runner Up**

School Name: **Giang Vo Secondary School, Hanoi**

State/Country: **Vietnam**

Team Name: **Ocean Team**

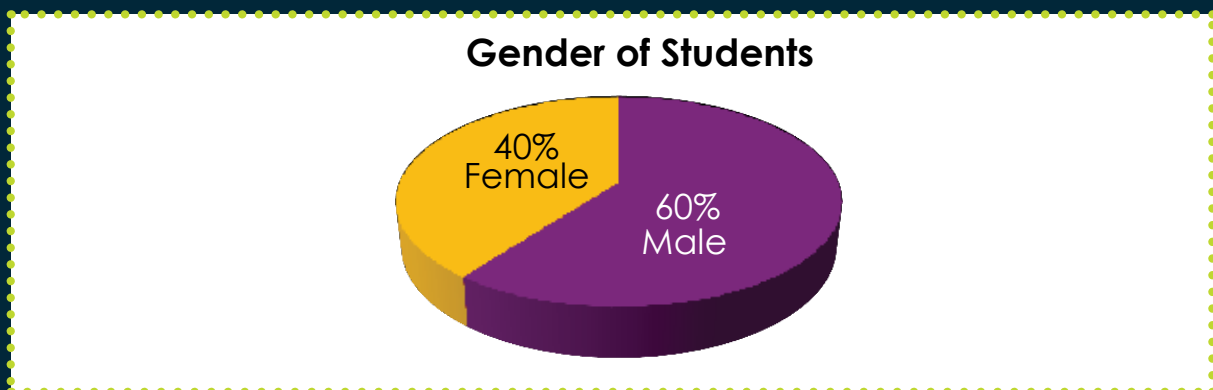
Invention Title: **Immobilization Biofilm Forming Bacteria On Husk Biochar To Remove Oil Pollution**



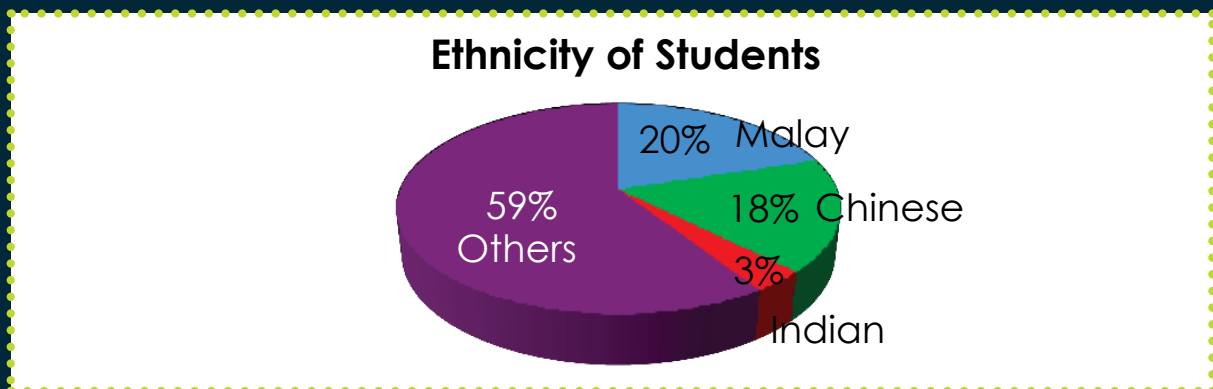
# 8 SURVEY ANALYSIS

## STUDENT'S SURVEY ANALYSIS

The student's survey was conducted during the Grand Finale. The survey forms were distributed to the participants of the YIC 2019. A total of 541 students participated in the survey. The analysis of survey is summarised and discussed below.



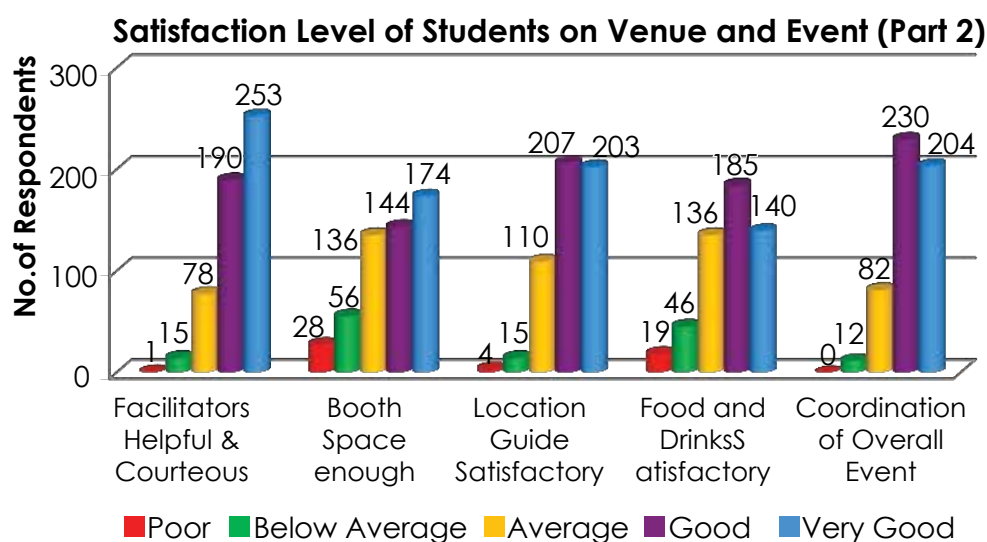
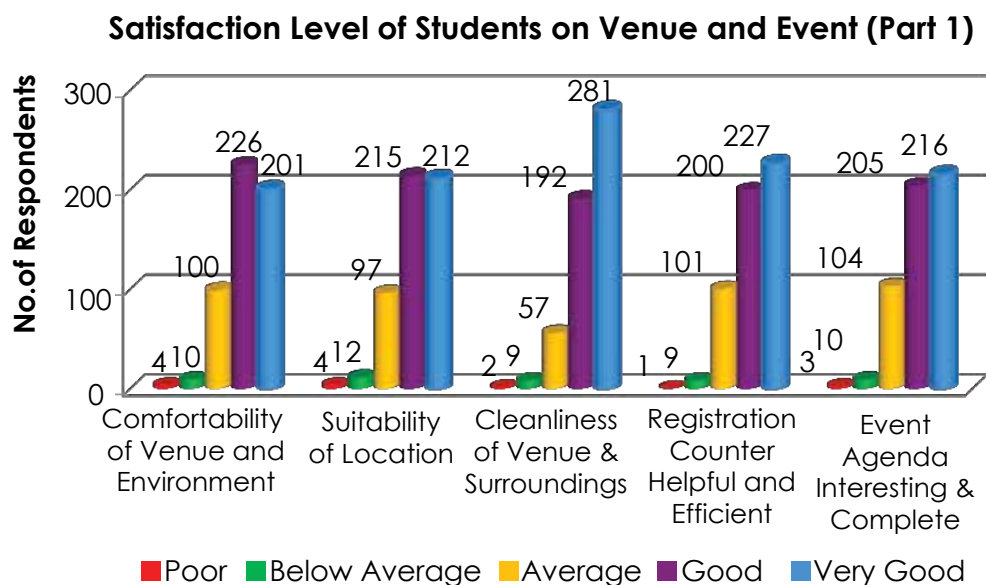
*Figure 1 : Gender of Students*



*Figure 2 : Ethnicity of Students*

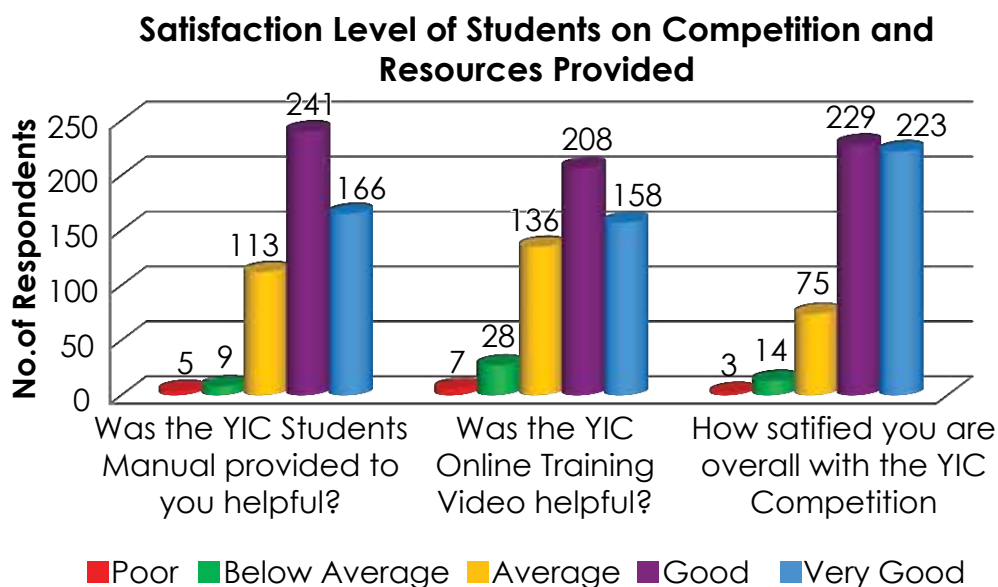
Figure 1 and 2 shows the students' gender and ethnicity, respectively. As can be seen from Figure 1, male students are more than female students. 60% of participants in the YIC 2019 are male students. The total number of female students who participated in the YIC 2019 was 211. Compared to the previous year, this year's gender distribution has shown significant variance with the participation of more male students.

Figure 2 illustrates that 'other races' had a higher percentage of participation (59%) relative to Chinese, Malay and Indian populations. The observation is explained by the participation of other countries including Philippines, Thailand, Vietnam, Timor Leste, Brunei, Singapore, Indonesia, China and also Sabah and Sarawak.



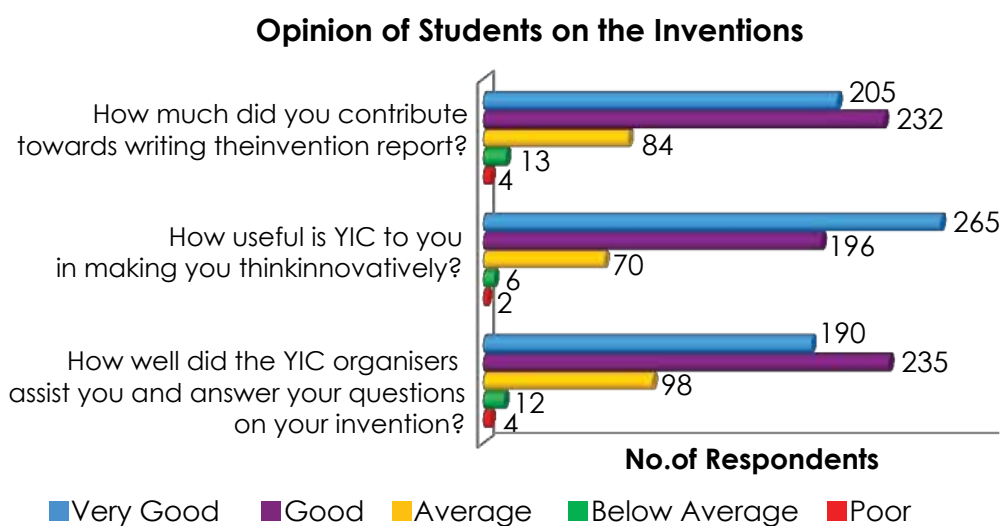
**Figure 3 :** Satisfaction Level of Students on the Venue and Event Day (Part 1 & 2)

Figure 3 shows the satisfaction level of students on the venue and event day. The criteria analysed were the student satisfaction level on the comfort of the venue and environment, suitability of location, cleanliness of the venue and surroundings, helpfulness and efficiency of the registration counter, how interesting and complete the event's agenda, facilitators' helpfulness and courteousness, booth space, location guide satisfactory and helpfulness, food and drinks satisfactory and coordination of overall event. The analysis shows that 80% of the students have rated all the above aspects as good and very good. It means the students were very comfortable with the place of event and satisfied with the overall cleanliness. Students are also very pleased with the operation of the registration counter and facilitators' helpfulness during the registration process. The participants also indicated that the location guide was able to provide a clear explanation of the program flow. Besides, most students appreciated the overall coordination of the event as the flow was very smooth and professionally handled.



**Figure 4 : Students' Opinion on Competition and Resources Provided**

The feedback obtained for students' opinion on the helpfulness of the students' manual, online training videos and satisfaction on the overall YIC competition is presented in Figure 4. As can be seen from Figure 4, 90% of the students rated average and above for all the aspects. From this analysis we can conclude that YIC students' manual and YIC online training videos have served their purpose to guide and provide students with information. The students are also delighted with the overall flow of the YIC competition.

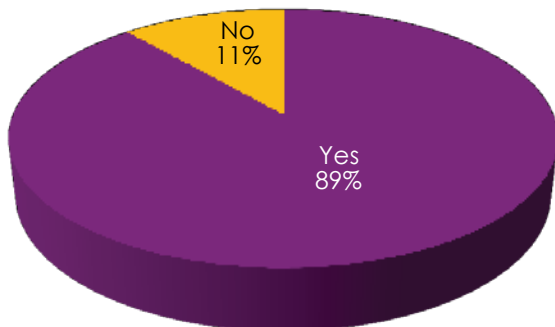


**Figure 5 : Students' Opinion on Inventions**

Students were also requested to rate the assistance provided by the organizers and how well the organizers answered questions on inventions. Based on the survey conducted, 80 % and above have rated good and very good which indicates participants were delighted with the assistance and continuous guidance provided by the organisers in timely manner. Besides, the result also indicates that the students believe that YIC has made them think innovatively during the process of making the inventions/innovations.

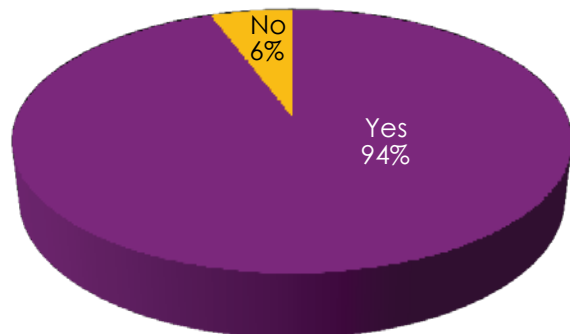


**Did Participating in YIC Motivate you to be an Inventor?**



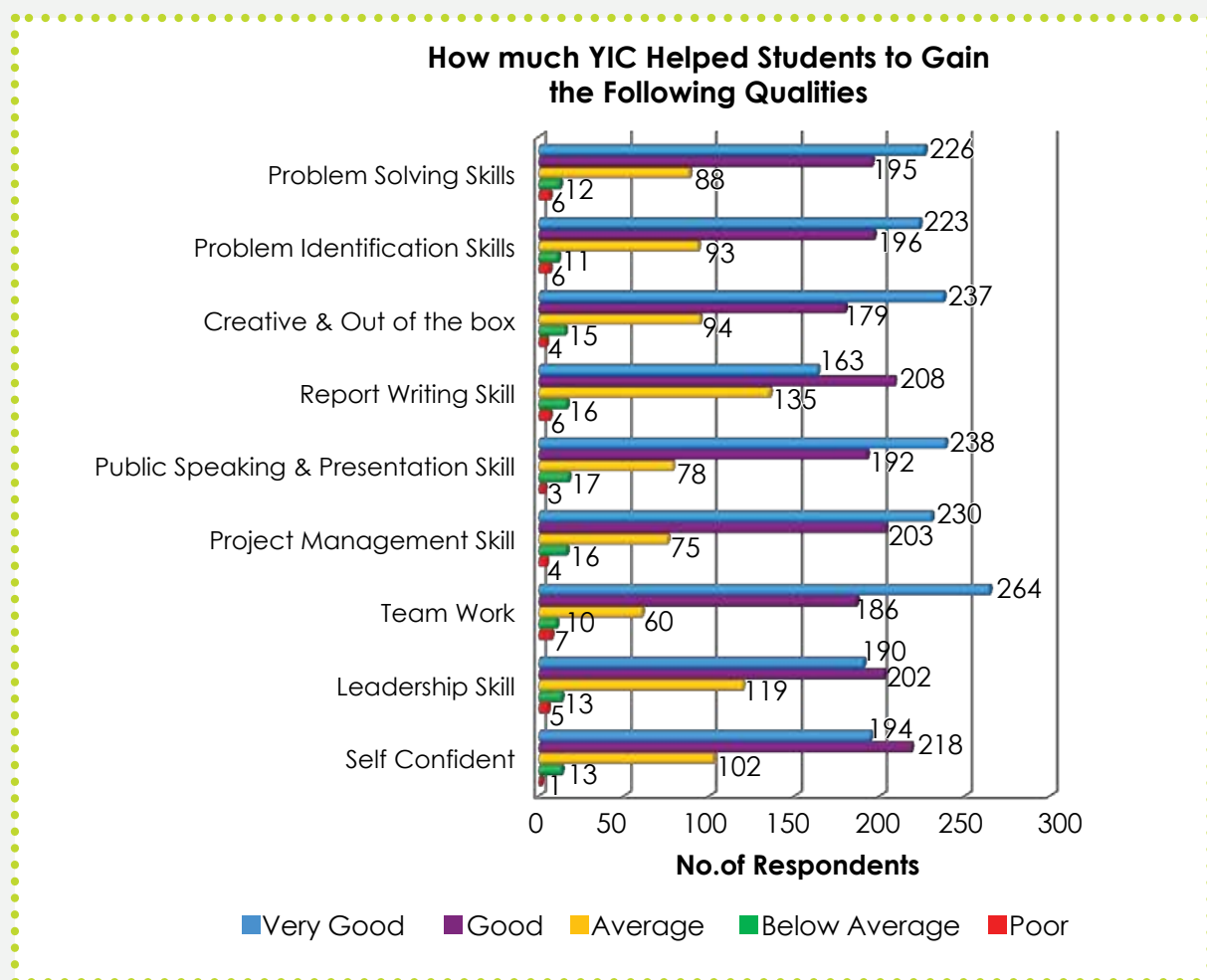
**Figure 6 :** Did Participating in YIC Motivates you to be an Inventor?

**Will You Participate in More Events such as YIC?**



**Figure 7 :** Will You Participate in More Events such as YIC?

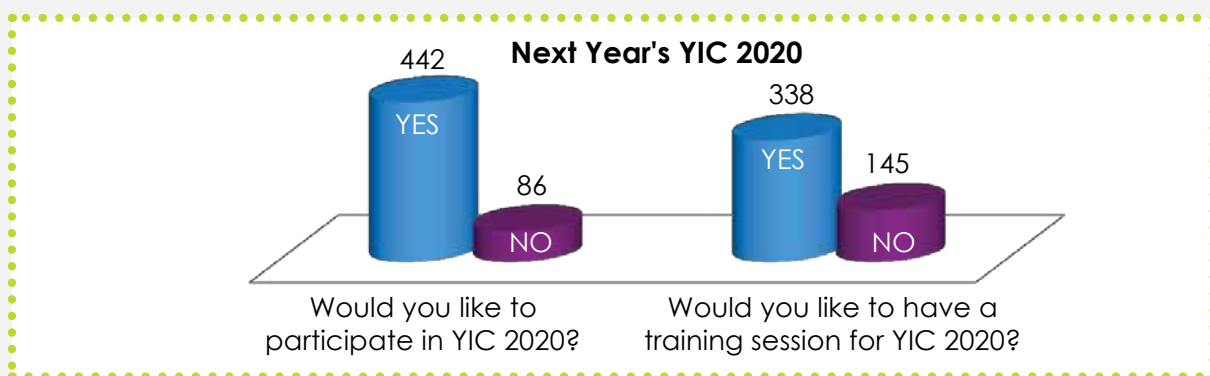
Figure 6 indicates that YIC has effectively incorporated the motivating dimension to learners, as 89% of participants responded positively. Besides, 94 % of students are interested in taking part in more events, such as YIC as can be seen in Figure 7. The findings obtained are supported by the participation of many of the previous YIC participants in other national and international competitions. This shows that YIC has been successful in developing competitive spirit among the students.



**Figure 8 :** How Much YIC Has Helped Students Gain the following Qualities

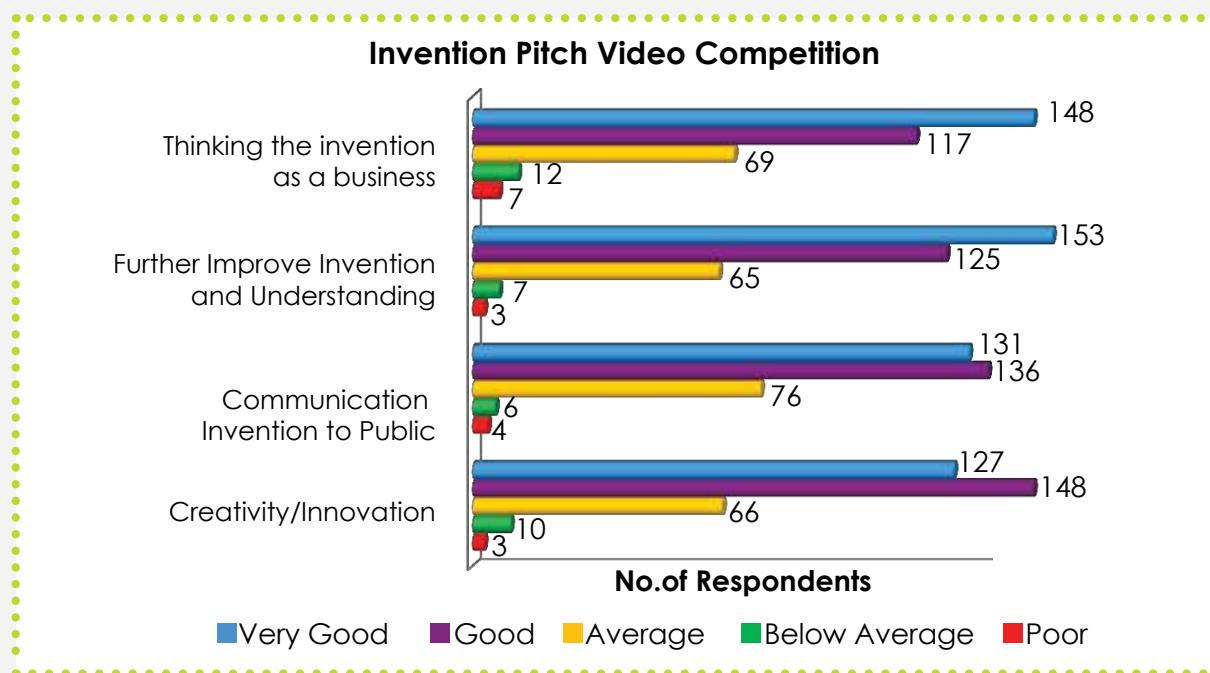
The result of analysis shown in Figure 8 clearly explained that YIC has successfully helped students to gain certain qualities such as self-confidence, leadership skills, teamwork, project management skills, public speaking & presentation skills, report writing skills, creative thinking and problem-solving skills. 75% of students rated good and very good, and less than 10 students rated poor for all interpersonal skills assessed. This indicates that YIC has played an essential role in encouraging students to acquire these interpersonal skills. As a conclusion, the practice of all these skills has made students qualified and thriving in the YIC 2019 Grand Final Competition.





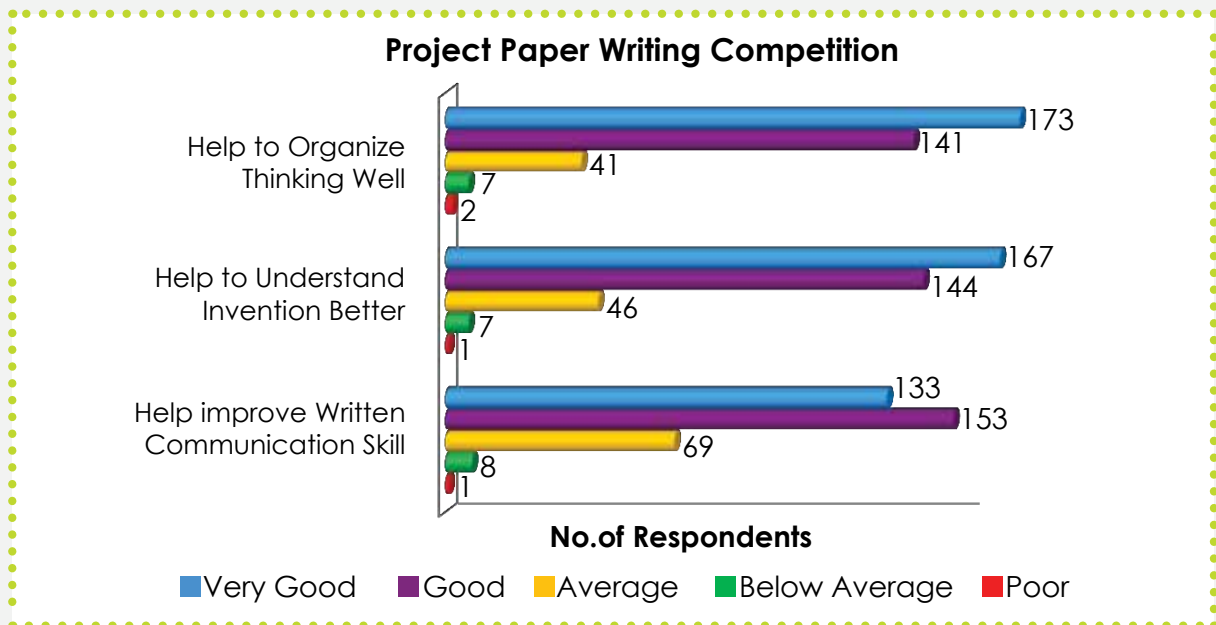
**Figure 9 :** Students' Opinion on YIC 2020

Figure 9 explains the student's response to their opinion on the participation of YIC 2020. Students were asked if they would like to take part in the YIC 2020 and the training sessions. Figure 9 clearly shows that the majority of students are eager and willing to participate again in YIC 2020. This proves that YIC is one of the competitions that provide an excellent platform for participants to experience the process of invention and innovation. The majority of the students (79 %) also express the need for the YIC 2020 training session to be held.



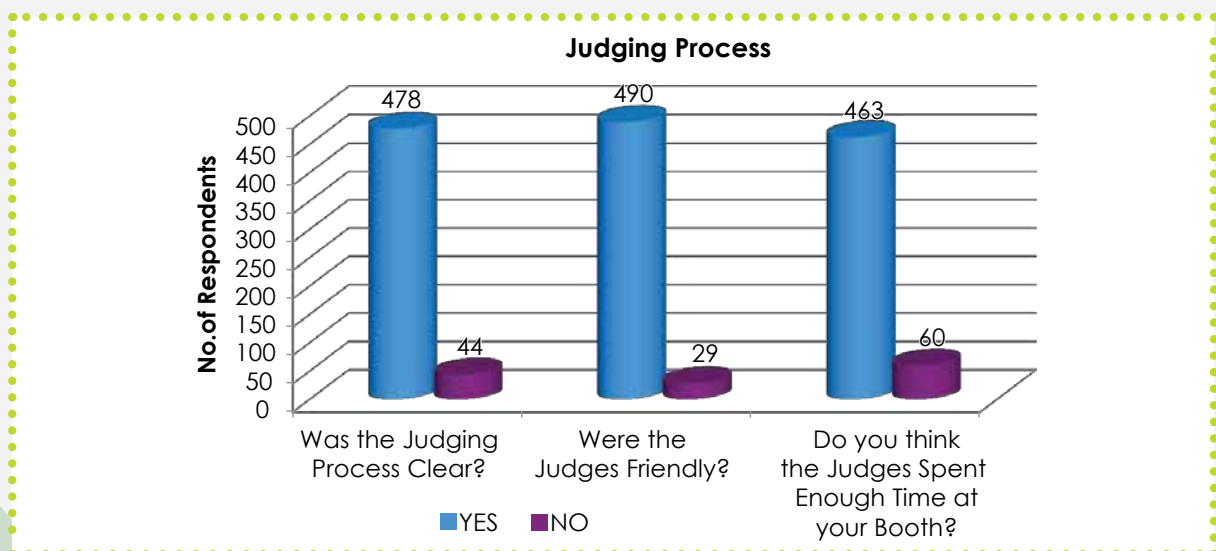
**Figure 10 :** Students' Opinion on Invention Pitch Video Competition

The participating teams were given an opportunity to come up with a 3-minute video to pitch their invention. However, this competition was not made compulsory by the organisation team. The primary purpose of this competition is to give an exposure for the participants to create a Pitch Video. A total of 55 teams participated in this competition and submitted their videos on time. Students' opinion on Invention Pitch Video Competition has shown in Figure 10. The students were asked if the video-making journey has helped them in the area of creativity/innovation, to communicate their invention to public and further improve their invention and understanding. More than 90% of the students have said it has helped them to improve on all three of the above-mentioned aspects. Over 300 of them said the invention pitch competition made them think of their innovation as a business model.



**Figure 11 : Students' Opinion on Project Paper Writing Competition**

Figure 11 shows students' feedback on the Project Paper Writing Competition. The primary purpose of this 3-page project paper competition is to introduce journal writing to the participants. A total of 49 teams participated in this competition. Students were asked how participating in project paper writing competition has helped them in written communication skill, understanding their invention better and organise their thinking style. Figure 11 shows that more than 300 participants responded positively by rating good and very good. This indicates that most students agreed project paper writing competition improve their written communication skills and understanding the concept of their invention. Besides, participating in this competition also encouraged them to organise their thinking skills well.



**Figure 12 : Students' Opinion on the Judging Process**

Figure 12 shows the opinion of the students on the process of judging. Based on the study, 91% of students indicated that the judging process was very clear as the chief judge briefed the participants before the evaluation. The respondents also feel the judges were very polite and spent enough time at their booths. The participants are generally very pleased with the judging process.



Get sponsored!  
#M@GICCYBERJAYA



The invention  
device

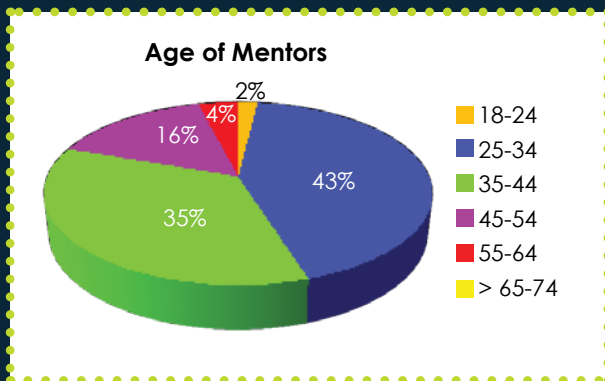


WALKY

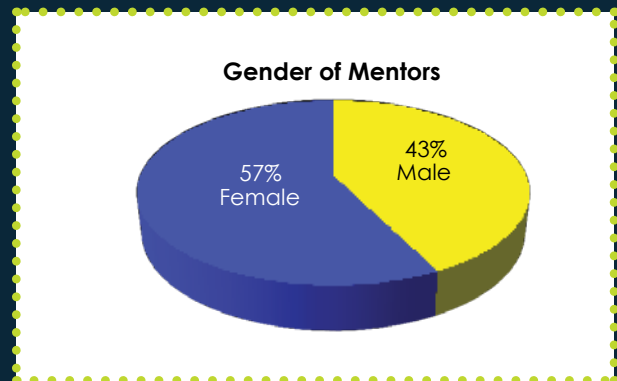


# MENTOR'S SURVEY ANALYSIS

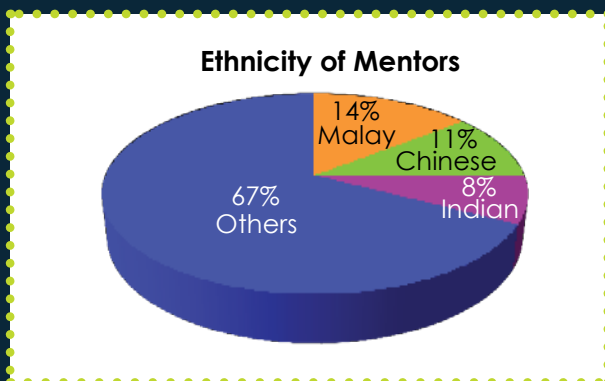
A survey was conducted on the day of the event among all the mentors who guided and accompanied the participants of the YIC 2019. The survey form was distributed to mentors during the mentoring seminar at the Auditorium, MAGIC, from 10.30 am to 1.00 pm. A total of 104 mentors participated in the survey. The results of the survey have been analysed and summarised as below.



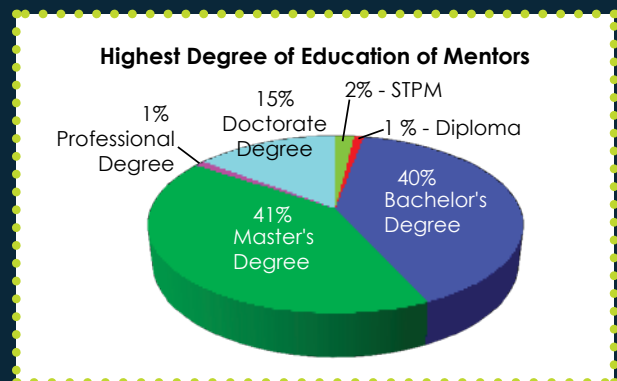
**Figure 13:** Age of Mentors



**Figure 14:** Gender of Mentors

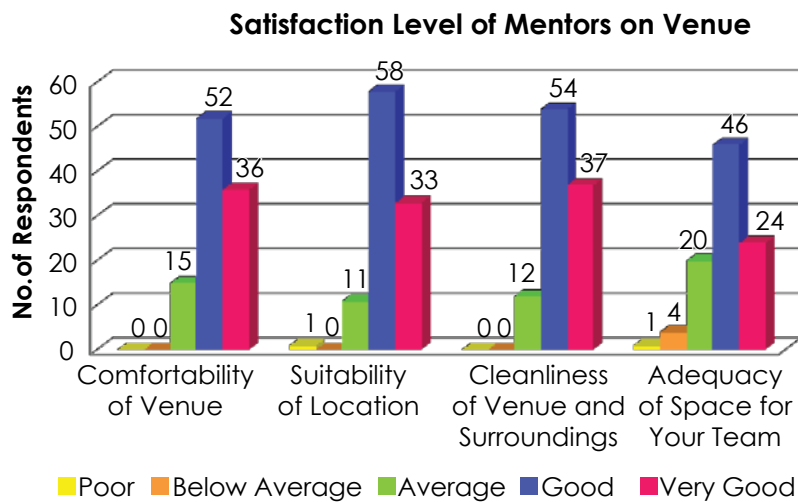


**Figure 15:** Ethnicity of Mentors



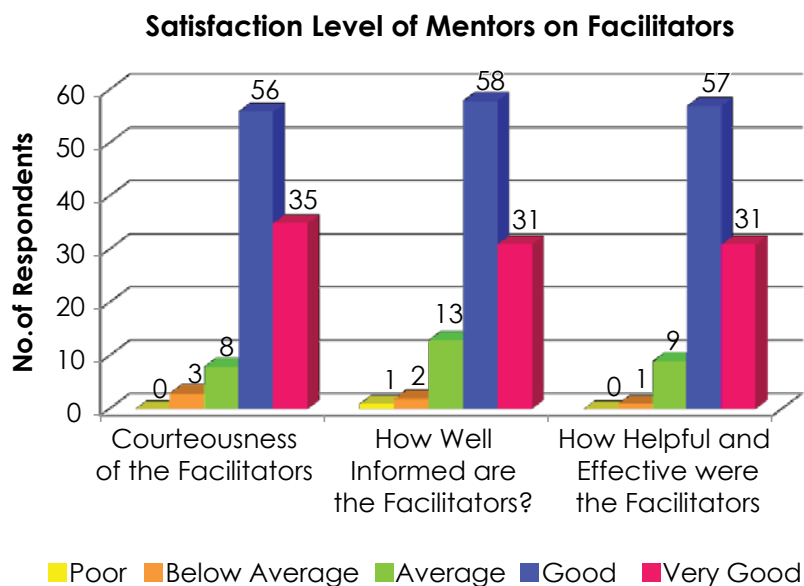
**Figure 16:** Highest Degree of Education of Mentors

Figure 13, 14, 15 and 16 shows the information on the age, gender, ethnicity and highest degree of education of the mentors of YIC 2019 participants. The results indicate that 94% of mentors fall under the age group of 25-54 years, which means that mentors are made up of both new and experienced teachers. Besides, 81% of the mentors for YIC 2019 hold either a Bachelor's degree or a Master's degree, which shows that the teachers who guided the participants were qualified professionals. Additionally, of the 104 mentors, 57% were female, which means that female teachers were very keen and interested in bringing students to take part in programs and activities outside the school. However, it should be noted that this year the percentage of male mentors showed a slight increase compared to 2018. This indicates that male teachers are also beginning to show interest in taking part in YIC. YIC 2019 consists of mentors of all three races; Malays, Chinese, Indians and other races. Mentors from the Philippines, Thailand, Vietnam, Timor Leste, Brunei, Singapore, Indonesia and China contribute 67% of the total amount.



**Figure 17 :** Satisfaction Level of Mentors on the Venue

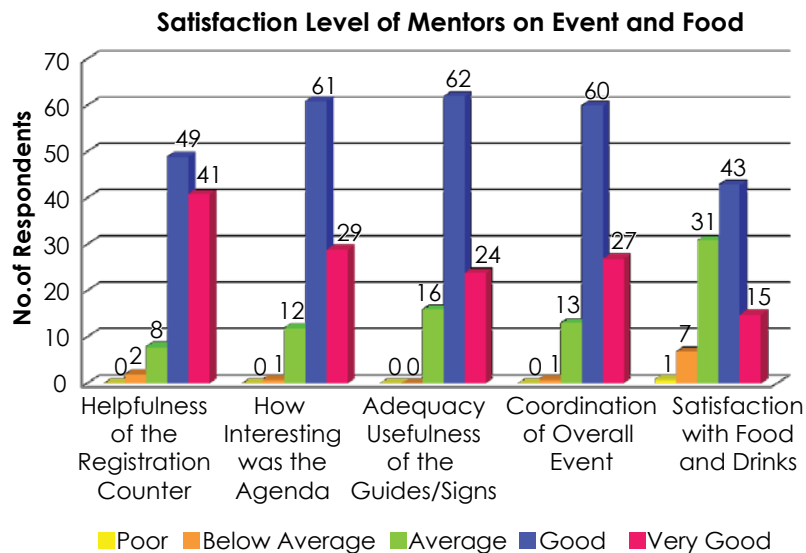
The level of satisfaction of the mentors on the venue can be seen in Figure 17. The criteria assessed included the comfort of the location, the suitability of the location, the cleanliness of the location and the surrounding area, and the adequacy of the team's space. Of the 104 mentors, 85 % rated Good and Very Good for the comfort of the place, while 87.5 % rated for the suitability of the place. The result suggests that most mentors have confirmed that the location and its surroundings are convenient and comfortable. A total of 70 mentors indicated that the space allocated to the booths was adequate, while 25 of them scored average and below for this factor.



**Figure 18 :** Satisfaction Level of Mentors on the Facilitators

To know the mentors' satisfaction with the facilitators, the mentors were asked to rate the facilitators' courtesy, how well trained, supportive and effective on the day of the event were the facilitators. Of the 104 mentors, 91 mentors rated good and very good in all three aspects. These findings indicate that the mentors were very pleased and satisfied with the guidance and assistance provided by the facilitators. We had over 60 facilitators who helped organisers make this event a great success.

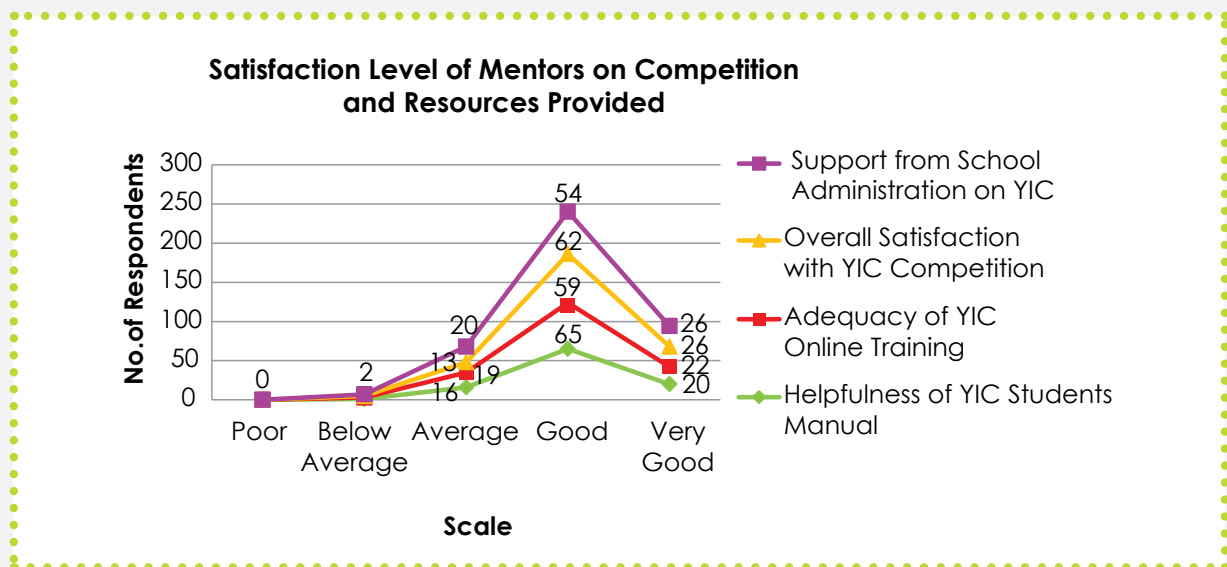




**Figure 19 :** Satisfaction Level of Mentors on the Event and Food

Figure 19 shows the level of satisfaction of the mentors with the event and food provided during the event. The mentors were asked about the helpfulness of the registration counter, and most of them rated good and very good, suggesting that mentors were well briefed on their search queries by the facilitators appointed for the registration counter. A total of 90 mentors said the whole event agenda was certainly interesting as the students and teachers were fully engaged with activities on the day of the event. Besides, most mentors said the signage for the mentor's seminar room, the judging place, the auditorium and the instructions for the booth arrangements were very helpful and made it easier for them to locate their booths. Besides, approximately 84% of mentors scored good and very good for the coordination of the overall event, suggesting that the event was well planned and executed. Lastly, most mentors rated for food and drinks on average and above, suggesting that on the day of the event the menu was favourable.

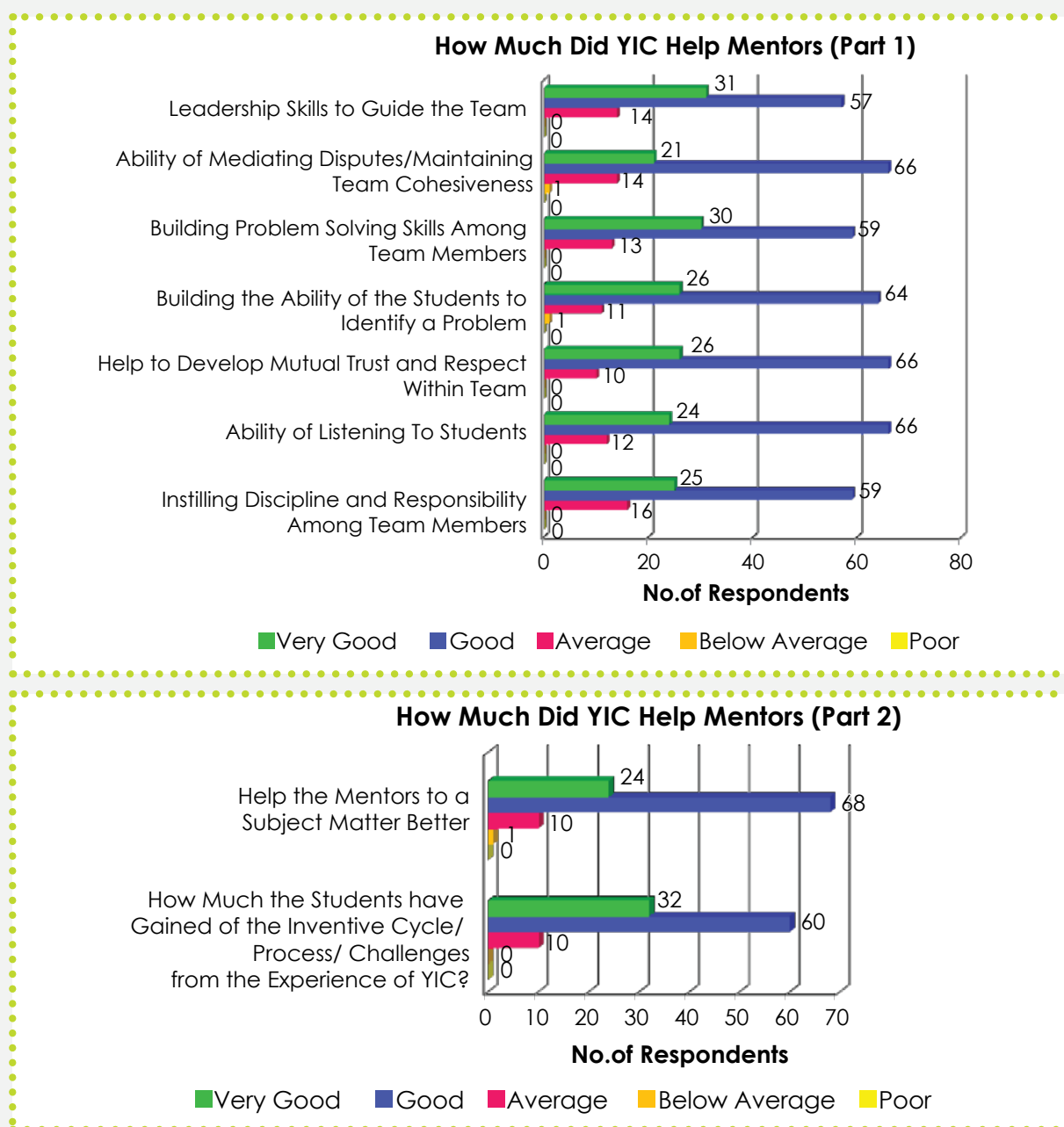




**Figure 20 :** Satisfaction Level of Mentors on the Competition and Resources Provided

Figure 20 shows the level of satisfaction of the mentors in the competition and the resources provided. At the initial stage, the student manual and the video for the writing of proposals were provided to the students as a guideline for the preparation of invention proposals. Five online training videos on various aspects were then made available to the shortlisted teams. Mentor evaluated the usefulness of the student's manual and the adequacy of online training. 80 % of the mentor rated good and very good, concluding that the YIC student's manual and online training was beneficial and intended to serve that purpose. The mentors were also very satisfied with the overall arrangements and management of the YIC 2019 Grand Finale. Also, 80 % of mentors reported that the schools provided all the support and encouraged their participation in YIC 2019. However, some mentors still face problems and do not receive proper support from their school administration.

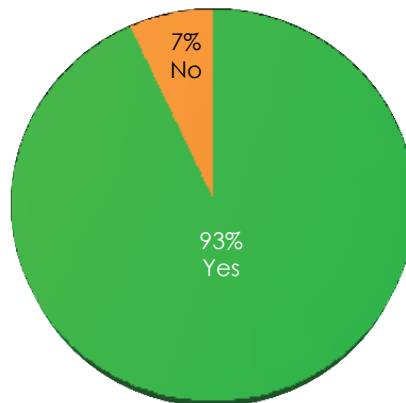




**Figure 21 :** Mentors' Opinion on How Much YIC Helped Them Gain Certain Qualities

Figure 21 displays the viewpoints of the mentors on how well the 2019 YIC helped them gain certain qualities. The mentors were asked about their leadership skills and the ability to mediate disputes during the process of invention. More than 80% of the mentors reported that YIC 2019 has helped them develop their leadership skills and the ability to mediate dispute during the innovation process as they have graded good and very good. A total of 89 mentors said that YIC helped improve the students' ability to identify problems and solve the problems. Besides, in order to perform well in the competition, mentors learned the ability to develop mutual trust and respect between team members. Also, YIC was able to develop stronger listening skills among the mentor as well. Of the 104 teachers, 87 % offered the students a chance to express their opinions and ideas on the inventions. YIC involvement also formed respectful attitudes towards each other and disciplined them. Additionally, 88 % of the mentors reported that the students were able to gain new knowledge of the Inventive Cycle and appreciate the experience of inventing and participating in YIC 2019. Ultimately, it showed that the Young Inventors Challenge 2019 helped mentors to become subject matter experts.

**Would You Like to Participate Again  
as Mentor in YIC 2020?**



**Figure 22 :** Would you like to participate again as mentor in YIC 2020

Figure 22 shows the responses of mentors to participate again as a mentor for YIC 2020. The outcome is very satisfactory because 93% of the mentors interviewed wanted to be a mentor again. This ensures that mentors also value the competition and wants their students to gain experience and knowledge from the event.



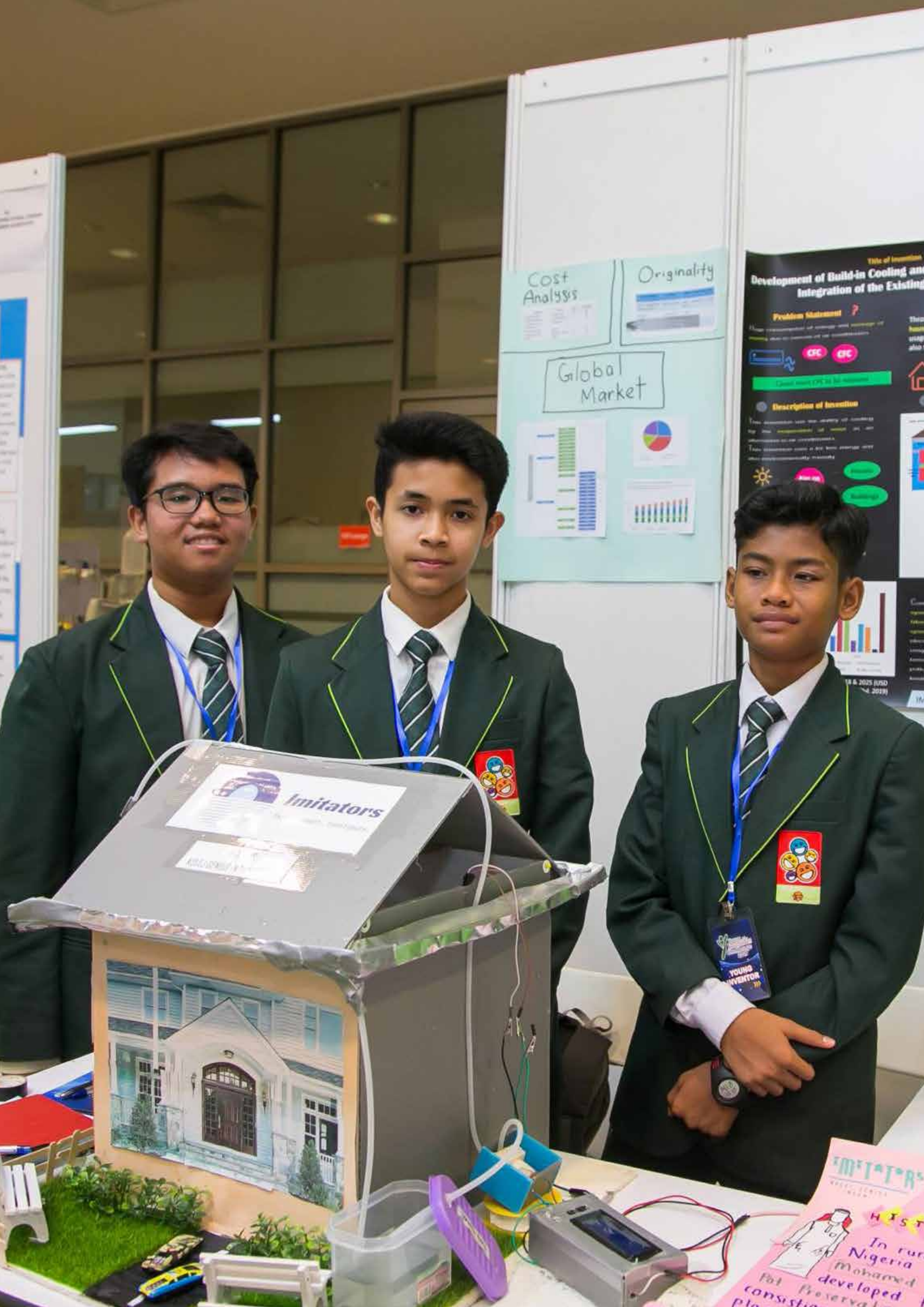
We asked the Mentors the following question and extract of their responses are as below:

Questions	Responses from Mentors
How many hours did you spend with your team for YIC 2019?	<ul style="list-style-type: none"> <li>• 1 hour a day</li> <li>• 2 hours a day</li> <li>• 2-5 hours a week</li> <li>• 30 - 50 hours</li> <li>• 1-3 months</li> <li>• 4-6 months</li> </ul>
What impacts did you have with your students/mentees?	<ul style="list-style-type: none"> <li>• Students manage to have critical training and be responsible to what they are doing</li> <li>• Self confidence</li> <li>• Team Cooperations</li> <li>• Discipline &amp; Invention Characters</li> <li>• Self/Time Management</li> <li>• Enthusiastic Characteristic</li> <li>• Interest in STEM/Creativity</li> <li>• Improve Thinking Skills and Building Ideas</li> <li>• A Great Exposure to Students</li> <li>• More Teamwork &amp; Communication</li> <li>• Help to solve disputes</li> <li>• Encourage Problem Solving Skills</li> <li>• Students become More Vocal Over Time, More Confident</li> <li>• Improved planning skills</li> </ul>
Any other support or assistance would enable you to be even more effective in YIC 2020?	<ul style="list-style-type: none"> <li>• Technical Assistance</li> <li>• Motivational Prize</li> <li>• Funding for Transport and Accommodation</li> <li>• Description of Products that have Won previous Competition</li> <li>• More Training for Students and Mentors on Proposal &amp; Report Writing</li> </ul>
What do you think the students have gained from this program?	<ul style="list-style-type: none"> <li>• Experience in Doing Prototype</li> <li>• Strong Collaboration</li> <li>• Expansion of Leadership and Inventive Skill</li> <li>• Self-discipline, Teamwork and Organizational Skills</li> <li>• Improved Communication and Thinking Skills</li> <li>• Gained Mutual Trust, Creativity and Problem Solving Skills</li> <li>• Realization that they can do something to change the world</li> </ul>
How good was YIC's role in creating opportunity for young inventors for the outside world?	<ul style="list-style-type: none"> <li>• Excellent Platform to Showcase their Output for Improvement</li> <li>• Very Good Change for the Students</li> <li>• Very good motivational widens their perspective toward invention</li> </ul>

Questions	Responses from Mentors
Do you think YIC has cultivated the idea of using inventions to make a positive change in society?	<ul style="list-style-type: none"> <li>All of them have said YES.</li> </ul>
What are your creative suggestions to improve the YIC?	<ul style="list-style-type: none"> <li>Compile all the proposal participated in finale as a journal / book</li> <li>Seminar for Teacher should be More Interesting</li> <li>All team must have Medal/more prizes</li> <li>The Venue should be Bigger and Comfortable</li> <li>Get Financial Support from KPM</li> <li>Monitoring Progress Report more frequently</li> <li>Feedback from Judges to the team</li> <li>Make a Category Winner based on STEM</li> </ul>
Suggest ways to create awareness/ participation from school/students.	<ul style="list-style-type: none"> <li>Facebook post</li> <li>Organize the same Science in the school</li> <li>Road Show</li> <li>Promote the Event on Social Media</li> <li>Promote in Every State</li> </ul>
What do you think of this year's theme?	<ul style="list-style-type: none"> <li>Very Good and Suitable Theme</li> <li>Excellent Theme</li> <li>Very Relevant Theme</li> <li>Interesting Theme</li> </ul>
What were the biggest challenges or problem you faced as a mentor?	<ul style="list-style-type: none"> <li>Time and Resources Constraints</li> <li>Financial Limitations</li> <li>Lacking of Experiences</li> <li>Implementing from Theory + Product</li> <li>Transportation issues</li> <li>Student's Computational Thinking in Developing Ideas</li> <li>Raising Awareness to Save the Environment</li> <li>To Train the Student on How to Think More Creative and Innovative</li> <li>Approval of Travel Authority</li> <li>Financial Assistance from Government/ Education Agency</li> </ul>

Besides, we also asked the mentors to propose a YIC 2020 theme and their suggestions listed below.

- Education 4.0
- Food Sustainability & Climate Change
- Futuristic
- Renewable Energy
- Impact of Science to Solve Today's Problems
- Holistic Development towards Better Future
- Embedding Information Technology in Sustainable Development Goals (SDGs)
- Wastage into Useful Product
- Green Technology
- Industry Development 4.0
- Environmental Management
- Innovation to Serve Ocean Life by applying Sustainable Development Goals (SDGs)



Cost  
Analysis

Originality

Global  
Market

Title of Invention  
**Development of Build-in Cooling and  
Integration of the Existing**

**Problem Statement** ?

These environmental issues and the need for  
energy efficiency in buildings are the main  
motivation for this invention.

**Description of Invention**

This invention is a system of cooling  
for the interior of a building. It is  
designed to be installed in the  
ceiling of a room. The system consists of  
a water reservoir, a pump, and a  
cooling unit.

The system is powered by a solar panel  
which is installed on the roof of the building.  
The solar panel is connected to the pump  
and the cooling unit. The pump draws  
water from the reservoir and pumps it  
into the cooling unit. The cooling unit  
then cools the water and circulates it  
into the room.

The system is designed to be  
easy to install and use. It is also  
designed to be energy efficient and  
environmentally friendly.

The system is designed to be  
used in a variety of settings, including  
homes, schools, and offices. It is also  
designed to be used in a variety of  
climates, including hot and cold.

The system is designed to be  
used in a variety of settings, including  
homes, schools, and offices. It is also  
designed to be used in a variety of  
climates, including hot and cold.

The system is designed to be  
used in a variety of settings, including  
homes, schools, and offices. It is also  
designed to be used in a variety of  
climates, including hot and cold.

The system is designed to be  
used in a variety of settings, including  
homes, schools, and offices. It is also  
designed to be used in a variety of  
climates, including hot and cold.

The system is designed to be  
used in a variety of settings, including  
homes, schools, and offices. It is also  
designed to be used in a variety of  
climates, including hot and cold.

The system is designed to be  
used in a variety of settings, including  
homes, schools, and offices. It is also  
designed to be used in a variety of  
climates, including hot and cold.

The system is designed to be  
used in a variety of settings, including  
homes, schools, and offices. It is also  
designed to be used in a variety of  
climates, including hot and cold.

The system is designed to be  
used in a variety of settings, including  
homes, schools, and offices. It is also  
designed to be used in a variety of  
climates, including hot and cold.

The system is designed to be  
used in a variety of settings, including  
homes, schools, and offices. It is also  
designed to be used in a variety of  
climates, including hot and cold.

The system is designed to be  
used in a variety of settings, including  
homes, schools, and offices. It is also  
designed to be used in a variety of  
climates, including hot and cold.

The system is designed to be  
used in a variety of settings, including  
homes, schools, and offices. It is also  
designed to be used in a variety of  
climates, including hot and cold.

The system is designed to be  
used in a variety of settings, including  
homes, schools, and offices. It is also  
designed to be used in a variety of  
climates, including hot and cold.

The system is designed to be  
used in a variety of settings, including  
homes, schools, and offices. It is also  
designed to be used in a variety of  
climates, including hot and cold.

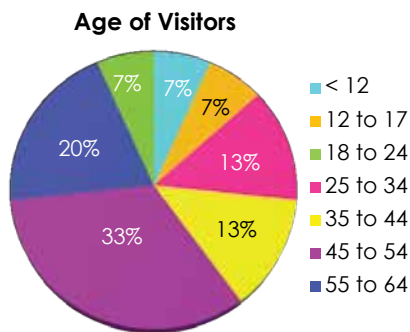
The system is designed to be  
used in a variety of settings, including  
homes, schools, and offices. It is also  
designed to be used in a variety of  
climates, including hot and cold.

The system is designed to be  
used in a variety of settings, including  
homes, schools, and offices. It is also  
designed to be used in a variety of  
climates, including hot and cold.

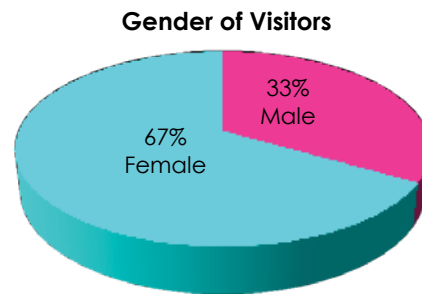
The system is designed to be  
used in a variety of settings, including  
homes, schools, and offices. It is also  
designed to be used in a variety of  
climates, including hot and cold.

# VISITOR'S SURVEY ANALYSIS

A survey was also conducted among the visitors to seek their feedback on the Young Inventors Challenge 2019. We were able to receive input from 15 guests.



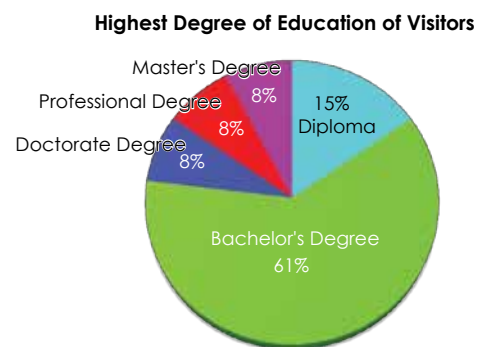
**Figure 23:** Age of Visitors



**Figure 24:** Gender of Visitors

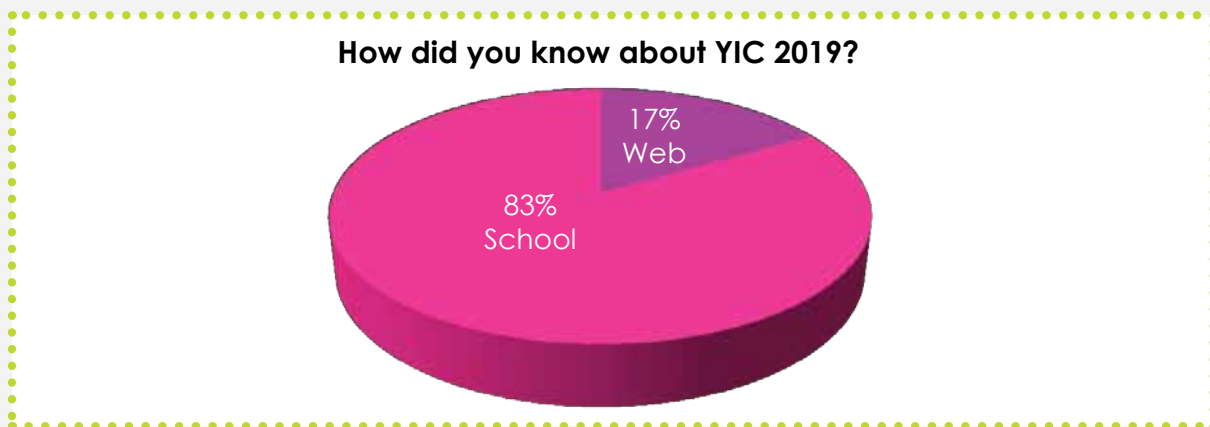


**Figure 25:** Ethnicity of Visitors



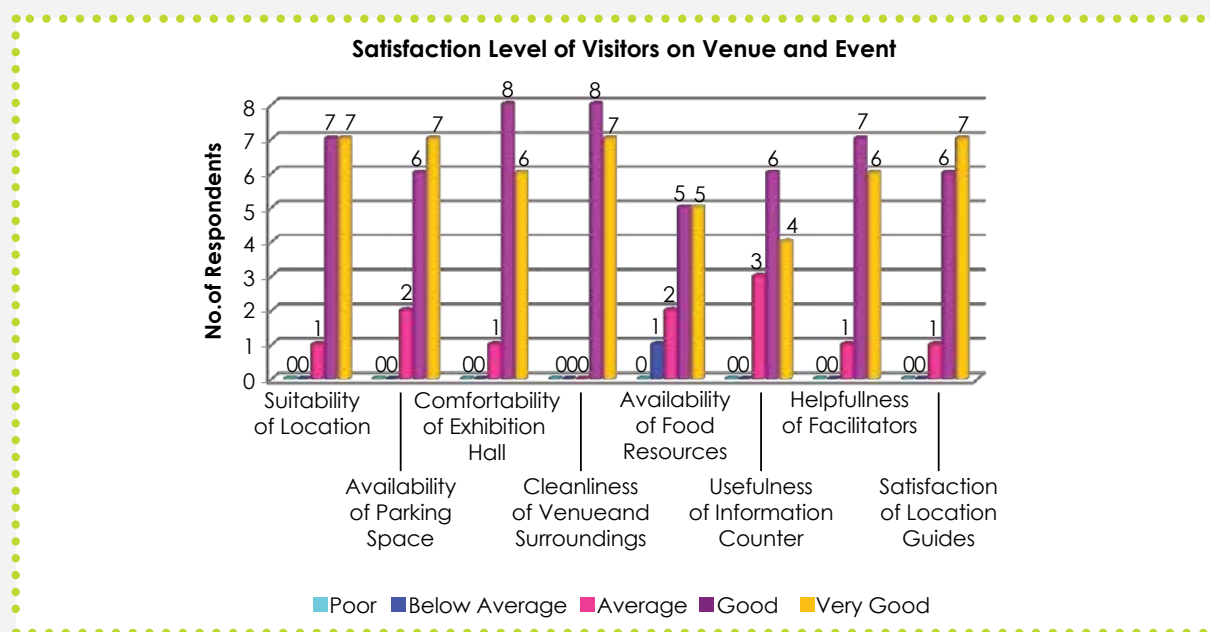
**Figure 26:** Highest Degree of Education of Visitors

Demographic information of the 15 visitors who have attended the Young Inventors Challenge, Grand Finale 2019 is shown in Figures 23 to 26. Figure 23 shows that 86.7% of visitors are between the ages of 18 and 74 years. The result reveals that the event may be attended mostly by the parents of the participants in supporting their children. Since most of the visitors who have taken part in this survey analysis were females, the percentage of the female is higher compared to males as can be seen in Figure 24. The ethnic distribution of visitors shows that 33 % of visitors were Malays, 13 % Chinese, 7 % Indians and the rest (47 %) was 'others'. The significant percentage was 'others' since YIC 2019 received participants from, Philippines, Thailand, Vietnam, Timor Leste, Brunei, Singapore, Indonesia and China, their parents fall into the 'others' category. Besides, Figure 26 shows that 61% of visitors have completed their Bachelor's degree and this shows that visitors are mostly university graduates.



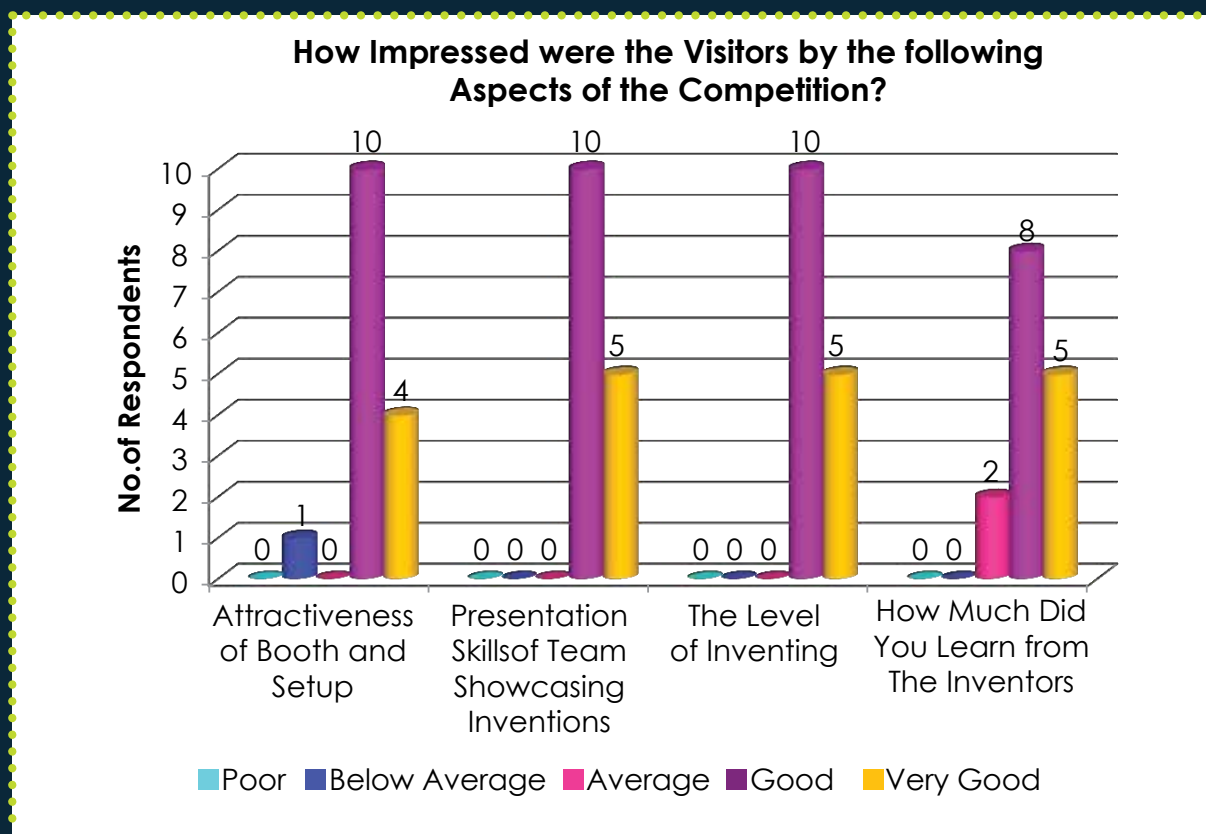
**Figure 27 :** How Did You Know About YIC 2019?

Figure 27 shows the visitor's response to how they know about YIC 2019. Among the 15 visitors surveyed, 83 % claimed to have received YIC 2019 information through the school's management. In addition, visitors have also indicated that they receive information about YIC through our website and Facebook page updates. The majority of the visitors who participated in the survey were parents/guardians of the participants.



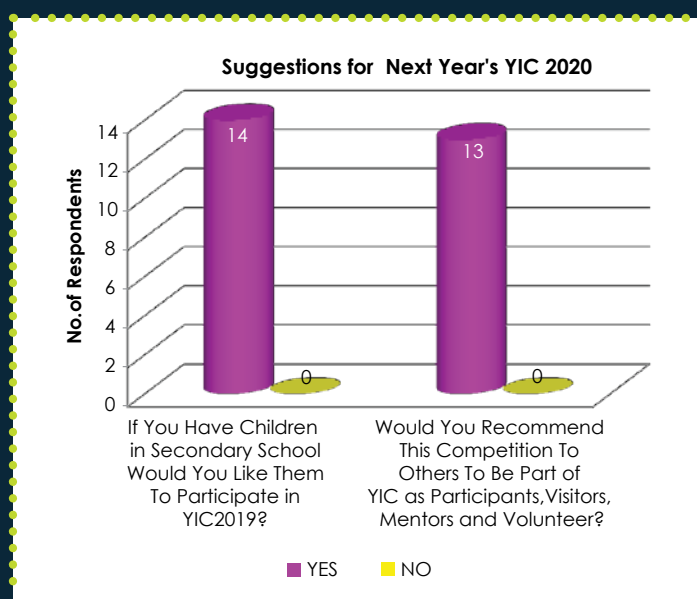
**Figure 28 :** Satisfaction Level of Visitors on Venue and Event

Figure 28 shows the response of visitors to their level of satisfaction with the Venue and Event. A large percentage of the visitors above average for the suitability of location, availability of parking space, comfortability of environment, cleanliness of venue, availability of food resources, the usefulness of information counter, helpfulness of facilitators and location guides. The result indicates that the visitors were able to find the location and parking easily during the competition day. Since this year we have requested the canteen to operate during the event, it was easier for visitors to find food resources. The visitors were also very pleased with the guidance provided by the facilitators. Overall, the visitors were satisfied and happy with the organisation of event.



**Figure 29 :** How impressed were the visitors by the following aspects of competition

Figure 29 shows the impression of the visitor on the attractiveness of the booth and the setup, the presentation skills and the level of inventiveness of the participating teams. Most of the visitors rated these aspects as good and very good, as the students were good at delivering their ideas to the visitors. Visitors also impressed with some of the extraordinary inventions. Besides, most of the visitors also felt that they had learned and gained knowledge about invention and innovation by visiting the Young Inventors Challenge 2019 booths.



**Figure 30 :** Suggestions of Next Year's YIC 2020

Figure 30 refers to suggestions made by the visitor for YIC 2020. The analysis shows that all visitors have agreed to the participation of their children in YIC 2020 and will recommend this competition to others, including participants, visitors, mentors and volunteers. It shows that visitors have been able to recognise the positive impact of participating in the YIC through their interactions with the participants. As a result, visitors would like to share information about YIC with others.





# 9 JUDGING

## ***Selection of Judges***

An invitation was sent by e-mail to all the judges who had previously been involved in the Young Inventors Challenge as well as to the new judges. Over 100 professionals from a variety of backgrounds have agreed to volunteer and contribute as a judge to the Young Inventors Challenge 2019 Grand Finale. As decided by the Project Committee, the judging team worked independently, led by an experienced Chief Judge. A 'WhatsApp' group for YIC Judges was set up to facilitate communication with the judges.

## ***Training for Judges***

Judges Training was conducted on 7th September 2019 at the Malaysian Global Innovation & Creativity Centre (MAGIC), Cyberjaya from 9.00 am to 1.00 pm. A total of 39 judges, mostly new judges, attended the training session. A brief introduction about ASTI and YIC was given to judges by Mr. Velavan Sengodan, the Chief Judge, assisted by Mr. Faizal Batcha, Deputy Chief Judge.

Mr. Velavan Sengodan, then briefed the judges on the journey of the YIC finalist shortlist, which included a cross-marking of the initial ideas (proposals). He then briefed the process flow of the judging as well as the use of Judging Score Sheet for the finale which carries a score of 80%. The Chief Judge also presented a rubric of marking the project paper which carries a score of 20%. The aim of this session is to develop a shared understanding between the judges and what constitutes an invention with the intention of achieving a uniform judging understanding.

After the briefing session, the judges were requested to mark all the finalists' reports, which were randomly cross-marked. Questions raised by the judges during the marking have been discussed. After marking the reports, the judges shared their opinion on the reports in general, i.e. quality of the reports and inventions proposed. The Chief Judge again briefed the Ethics and Guidelines of the Judging Process, along with some tips on the set of questions to be asked.

# ***Grand Finale Judging***

Judges arrived at 7.30 am for the Judges' briefing on Grand Finale Day. A total of 98 judges, including six senior judges, who were selected as the Core Judgment Panel present at the Grand Final Day. Ninety-two judges were divided into 23 groups each consisting of four judges, paired up to cross-judge five to six booths (teams). The Judging Group was required to submit a final mark after deliberation within the two paired Judging Teams. The judges were from both the academia and industries. The judging team consists of well-balanced multi-racial makeup of the judges.

The Chief Judge, Mr. Faizal Batcha, began the briefing for the judges at 8.15 am on the flow and expectations, including the guideline of the score sheet, and it lasted approximately an hour. He also reminded the judges to focus on the quality of the invention and the content of the presentation, in addition to the theme of the year, which should be given significant attention. He emphasised time management to ensure that all teams are fairly judged and completed on time. The judges are advised not to make suggestions to the teams as it will affect the next process of cross-judging. Project papers of the participating teams were also shared with the judge to give the judges an idea of the inventions that they will be assessed soon.

After the opening ceremony of the YIC 2019, the Chief Judge explained the process of judging to the students. The judges were then briefly introduced to the students, and the judging process began officially at 10.10 am. The judging process took approximately 2.5 hours which ended at approximately 12.40 pm as planned.

Twenty minutes of the judging duration were allocated to each Students' Project Team. At every 20 minutes interval, the facilitators were on hand to alert the judges. Each Project Team had 10 minutes to present and 5-8 minutes for Q&A. During this time, the six Senior Judges (Panel), including the Chief Judge, visited and evaluated the assigned projects/booths, respectively. This is to ensure further that the overall assessment carried out between the groups of judges was rational, reliable, and also to gain a sense of understanding of the overall quality of the inventions presented.

Upon completion of the cross-judgment, all judges were required to return to the Judgment Room and to discuss the team scores in their respective groups. Once the final score has been mutually agreed between the judges in the group for their respective teams assessed, the final marks have been given to the Chief Judge. Judging groups were encouraged to ensure that the marks were correctly added, and the comments recorded. The scores were collected, tabulated and ranked by 2.00 pm. The Top 25 scoring Student Project Teams were then deliberated by the Panel of Senior Judges who have also evaluated these projects earlier. Finally, the top 10 deserving winners were selected and endorsed by the Chief Judge. YIC is proud to note that the entire judging process was conducted in a professional and transparent manner, without any prejudice. All judges have been well engaged in their duties and schedules. The judges were pleased to have volunteered at the well-organized ASTI event and expressed support for future programmes.





# ReSu4C

Freshiry Food Detector



## PROBLEM STATEMENT

In Malaysia, the problem of food waste is widespread. The average food waste in Malaysia is very high, about 3000 metric tons of food waste per day, which can be used as food for 2 million people in a day. This issue becomes more serious because of the practices of certain hotels and restaurants, especially those who offer buffet menu. Sometimes they prepare more food than what is consumed by the customer. This will result in surplus of food where the food is usually tossed away.

## DESCRIPTION OF INVENTION

As the food started to go bad, it will release methane gas along with other gases such as nitrous oxide, water vapour, tropospheric ozone, chlorofluorocarbon and hydroupcarbon. However, these other gases only present in rather little quantity. When the food is put into our device, it will activate the methane sensor to function. The methane sensor continuously detects and monitors the level of methane gas produced by the food inside our device. The status of the food freshness will always be shown on the LCD screen that on the outer part of our device. When the detected methane gas level meets a certain threshold, our device will emit sound and red LED light will flash to warn the consumers. The consumers of the food will always know the status of food freshness before eating the food.



## RELEVANCE TO THEME

Most of the restaurants and hotels owner do not donate surplus food to charity homes because of their concerns on food freshness. So, we create a device that detects food freshness. Hotels and restaurants can put the food into our device before sending it to charity. This will minimize the food that will be tossed away every day.



## COST ANALYSIS (OPTIONAL)

Items	Cost
150ohm Resistor	0.00
LCD Screen	4.00
Male-Male Jumper wires	0.00
Methane Sensor	0.00
Arduino Board	0.00
LED Light	0.00
Plywood - A2 size	0.00
TOTAL	0.00

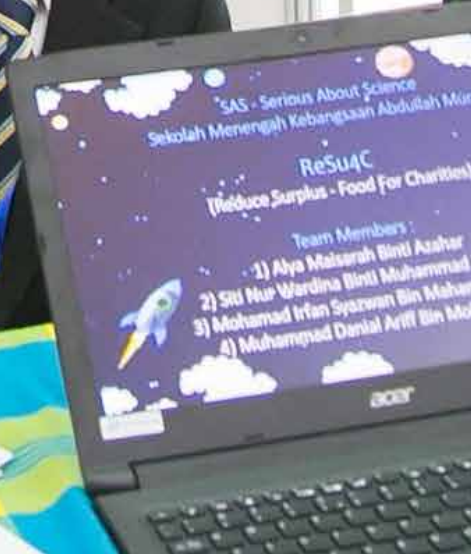
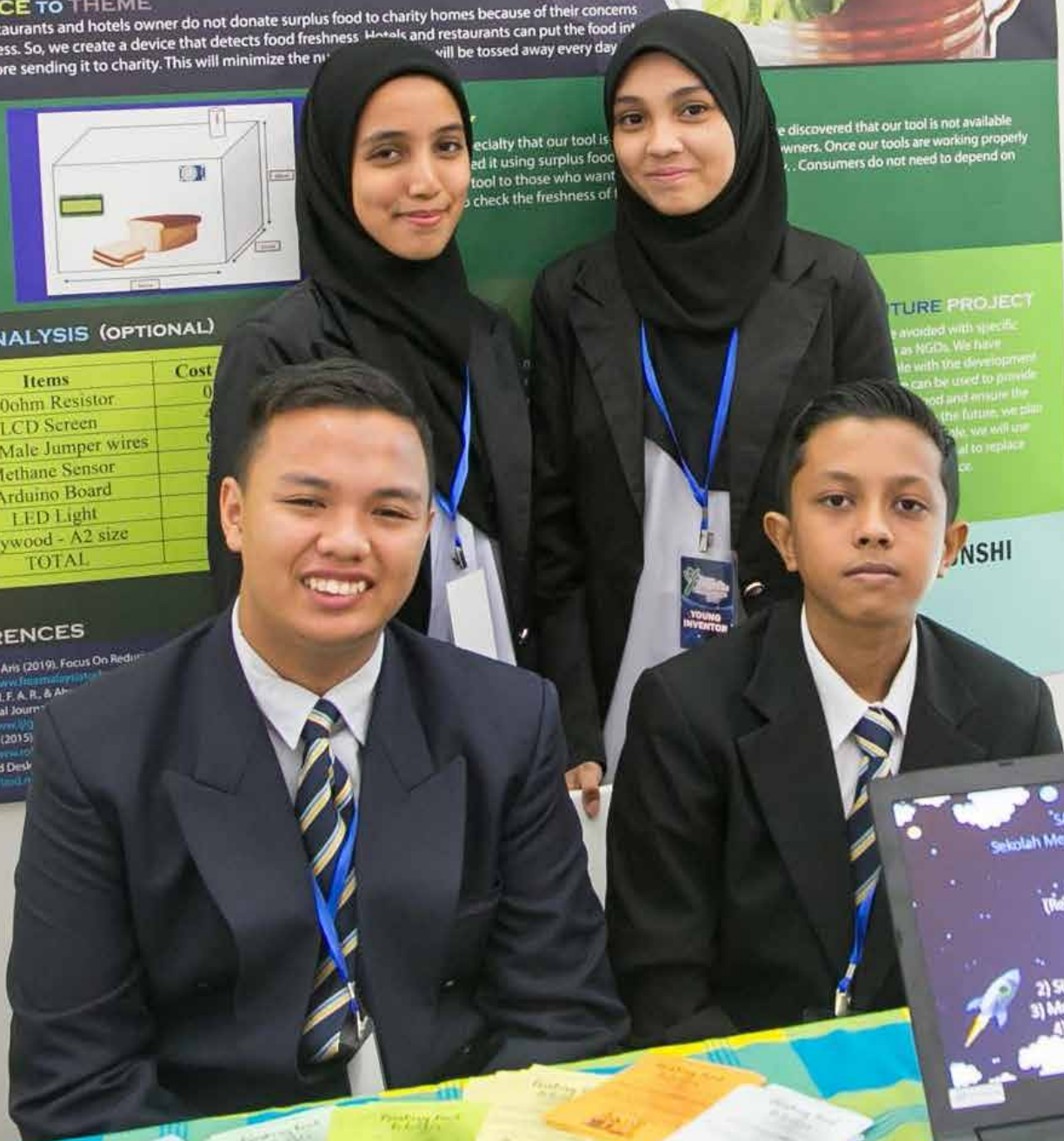
## REFERENCES

- Nurul Azwa Aris (2019). Focus On Reducing Food Waste. <http://www.fazmawati.com>
- Sulaiman, N. F. A. R., & Ali. (2019). International Journal of Food Waste Management. <http://www.ijfwm.com>
- Robotpark (2015). <http://www.robotpark.com>
- NOTV Food Desk. <https://fooddesk.com>

## CONCLUSION

We discovered that our tool is not available in the market. Once our tools are working properly, we can provide a solution to the problem. Consumers do not need to depend on the food freshness.

MUNSHI



# 10 VOLUNTEERS MANAGEMENT

For the Young Inventors Challenge 2019, ASTI formed an YIC Event Committee comprised of volunteers from different fields. Volunteers have been appointed as head of departments to prepare them to become future leaders of society. The details of the volunteer who headed the departments are shown in Table 6:

No	Name	Department
1	Mr. Anandan Shanmugam	Project Director
2	Ms. Vanitha Vasu	Event Committee Head 1
3	Ms. Umahsankaiah Muthunaikar	Event Committee Head 11
4	Mr. Sakthivel Ganeson	Safety & Hall Management
5	Mr. Ragavan Pandian	Crowd Management
6	Ms. Gayatri Ramakrishnan	Stage & Prizes Management
7	Mrs. Sankari Ganesan	Judging
8	Mr. Navintran Vadivelu	F&B Management
9	Mr. Jayasilan Kandasamy	Traffic, Transportation & Security Department
10	Ms. Ritha Krishnan	Ushering Department
11	Ms. Kalaihchelva Rani Geneson	Survey Department
12	Mr. Surender Gunalan	Public Relation
13	Ms. Sugarniya Machap	Press Management
14	Mr. Logan Tamlarasu	Media Management
15	Ms. Yugeswari Krishnan	Registration Department
16	Ms. Caroline Maria	Mentor Seminar Session

**Table 6:** YIC 2019 Head of Department List

Prior to the Grand Finale, a meeting was held on 7 September 2019 at the Malaysian Global Innovation & Creativity Centre (MAGIC), Cyberjaya, to discuss the implementation process of the event day. Each Head of Department (HOD) was assigned a task within the scope of their duties under the supervision of the YIC Project Committee.

In addition, ASTI has also recruited over 50 volunteers to assist the HODs in the Grand Final. The details of the facilitators are as shown in Table 7:

No	Institution	No of Volunteers
1	University Pendidikan Sultan Idris (UPSI)	19
2	University Putra Malaysia (UPM)	21
3	Individuals	12
<b>TOTAL</b>		<b>52</b>

**Table 7:** Facilitators Details

ASTI would like to express our sincere appreciation and thanks to all the volunteers from UPSI, UPM and other individuals for making YIC 2019 a great success.



# 11 FUNDING & BUDGET

## FUNDING

Young Inventors Challenge 2019 was funded and supported by Malaysian Global Innovation & Creativity Centre (MAGIC), JACTIM Foundation, Tenaga Nasional Berhad (TNB), IJM Corporation Berhad, Allianz Malaysia Berhad and Asian Food Ingredients Sdn Bhd. These funding organisations and individuals are the backbones of the success and achievement of YIC 2019. The funds pledged and disbursed by our major sponsors are shown in Table 8.

No	Funders/Sponsors	Grant Allocation (RM)
1	Jactim Foundation	25,000.00
2	Magic, Cyberjaya - Venue Sponsor	12,720.00
3	Tenaga Nasional Berhad	10,000.00
4	IJM Corporation Berhad	5,000.00
5	Allianz Malaysia Berhad- Insurance Sponsor	2,448.00
6	Asia Food Ingredients Sdn Bhd	2,000.00
7	Ms. Esther The Theng Yinn	200.00
TOTAL		57,368.00

Table 8: YIC 2019 Funding

**Note:** Due to funding constraints, we charged a participation fee of RM 400 per team and successfully reduced the cost. For example seed funding, accommodation and etc. have been reduced to complete the project with great success.

### Participation Fee

No	Item	Amount (RM)
1	Participation Fee (RM 400 X 139 teams)	55,600.00

Table 9: YIC 2019 Participation Fee Collection

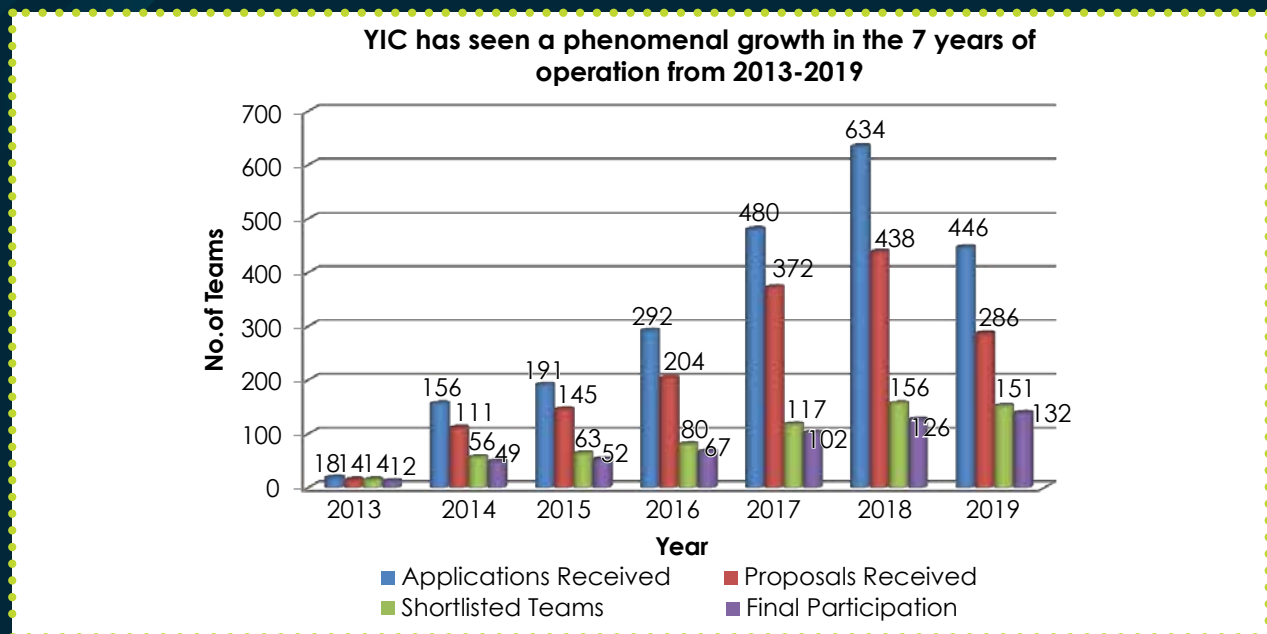
# ACCOUNT STATEMENT OF YIC 2019

Income and Expenses Statement for the Project Period Ended 31 October 2019

<b>Income</b>	<b>2019 (RM)</b>
Jactim Foundation	25,000.00
Magic, Cyberjaya - Venue Sponsor	12,720.00
Tenaga Nasional Berhad	10,000.00
IJM Corporation Berhad	5,000.00
Allianz Malaysia Berhad- Insurance Sponsor	2,448.00
Asia Food Ingredients Sdn Bhd	2,000.00
Ms.Esther The Theng Yinn	200.00
Participants Fee RM 400 X 139	55,600.00
<b>TOTAL INCOME</b>	<b>112,968.00</b>
<b>Less: Expenditure</b>	
Module Development, IP generation and internal licenses	15,000.00
Promotion Flyers Designing, Printing & Postage, Petty Cash	5,075.00
Judges Training Venue + Meals for Judges	1,500.00
Online Training Video Development	600.00
Evaluation & Research	1,000.00
Venue (Rental) (Sponsor in Kind)	12,720.00
Exhibition Booths	34,888.08
Prizes & Souvenirs	20,186.00
Insurance (students, mentors, judges & volunteers) (Sponsor in Kind)	2,448.00
Accommodation for Judges and Volunteers	5,091.00
Meals (students, mentors, judges & volunteers)	18,750.00
PA system, Photography & Videography	5,900.00
Designing, Printing & Promotion	2,739.00
Event Committee	5,890.00
Transportation	3,000.00
Project Manager	57,132.00
Project Manager Benefit	7,787.40
Project Director Allowances	12,000.00
Secretariat Utilities	20,000.00
<b>TOTAL EXPENDITURE</b>	<b>231,706.48</b>
<b>Excess of (Expenditure)/Income</b>	<b>(118,738.48)</b>

\*The excess of expenditure was paid by Association of Science, Technology and Innovation.

# ACHIEVEMENT 12 OF THE PROJECT



**Figure 31:** Comparison of Participation from YIC 2013-2019

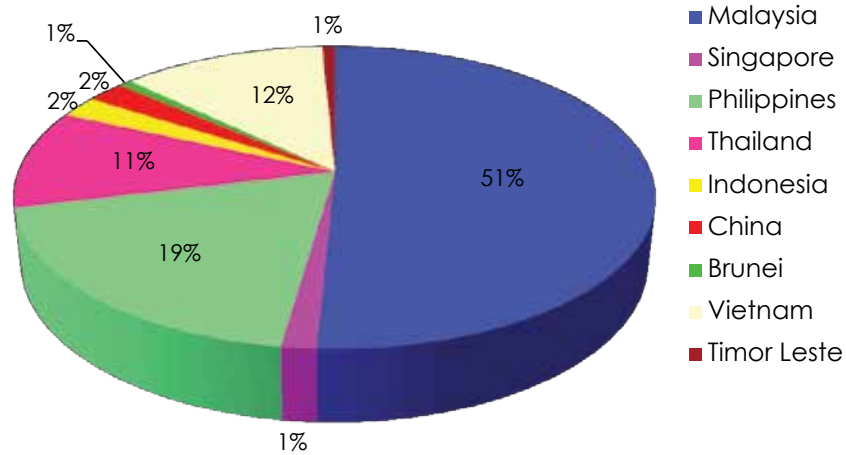
Figure 31 shows the growth of YIC since 2013. As can be seen in Figure 31, there is an increase in the number of applications received between 2013 to 2018 and a slight decrease in 2019. The decrease in the number of participants is mainly due to the participation fee of RM 400 per team that we charged for the first time this year because of financial constraints. Nonetheless, we still managed to get participation from 446 teams showing that schools and students are very interested in participating in the Young Inventors Challenge.

Table 10 shows the breakdown of YIC 2019 grand finale participation by country.

State	YIC 2013	YIC 2014	YIC 2015	YIC 2016	YIC 2017	YIC 2018	YIC 2019
Malaysia	12	49	51	58	81	79	67
Singapore	0	0	1	0	1	1	2
Philippines	0	0	0	9	4	14	25
Thailand	0	0	0	0	14	24	14
Indonesia	0	0	0	0	2	7	3
China	0	0	0	0	0	1	3
Brunei	0	0	0	0	0	0	1
Vietnam	0	0	0	0	0	0	16
Timor Leste	0	0	0	0	0	0	1

**Table 10:** YIC Grand Finale Participation 2013 -2019

## Countries Distribution for YIC 2019



**Figure 32:** Countries Distribution for YIC 2019

Table 10 shows the participation by country for YIC from 2013 to 2019. As the year progresses, we have managed to reach out to more countries, and this year we have the participation of new countries, including Brunei, Vietnam and Timor Leste. Their participation and invention ideas are overwhelming and outstanding. In the coming years, we hope to open up YIC to even more countries.



# MEDIA COVERAGE FOR YIC 2019 (NATIONAL AND INTERNATIONAL)

kemdikbud.go.id/main/blog/2019/09/peneliti-muda-indonesia-raih-medali-emas-kompetisi-internasional-young-inventors-challenge-2019

Apps Bookmarks OutSyed The Box Association of Scie... Science Fair for You... YouTube Yahoo Malaysia Selamat datang ke... Save Vi

Kementerian Pendidikan dan Kebudayaan

Tentang Kami • Jendela • Siswa • Guru • Orang Tua • Sekolah • Budaya & Bahasa • Masyarakat & Mitra • Pemerintah Daerah

## Peneliti Muda Indonesia Raih Medali Emas Kompetisi Internasional "Young Inventors Challenge 2019" 24 September 2019 — Back

Jakarta, Kemdikbud — Pressa hebat kembali diraih pemuda Indonesia. Sri Nur Khairul dan Suprihatin, peneliti muda Indonesia yang berasal dari SMA Negeri 1 Klatung, Lamongan, Jawa Timur, berhasil meraih medali emas di ajang Kompetisi Peneliti Muda atau Young Inventors Challenge (YIC) yang diselenggarakan pada tanggal 21 September 2019, di Malaysian Global Innovation & Creativity Center (MGICC), Cyberjaya, Malaysia.

Penelitian siswa Indonesia yang mendapatkan penghargaan medali emas di YIC 2019 mengenai team yang berasal dari seorang peneliti dan seorang siswa yang dirancang sebagai thermal insulator atau penahan panas dalam ruangan. Temuan tersebut sesuai dengan tema yang diusung YIC tahun 2019, yaitu Sustainable Development Goals-12 (SDGs-12). Salah satu tujuan SDGs adalah memastikan pola konsumsi dan produksi yang bertanggungjawab terhadap lingkungan, sosial, dan budaya.

Ajang YIC 2019 diikuti 446 pendatang berasal dari 10 negara di Asia, yaitu Malaysia, Singapura, Filipina, Thailand, Brunei Darussalam, Myanmar, Vietnam, China, Timor Leste dan Indonesia. Indonesia dalam ajang ini mengirimkan tiga tim untuk bersaing dengan 123 tim dari lainnya. Ketiga tim Indonesia berasal dari tiga sekolah menengah atas, yaitu tim ke-1 beranggotakan Sri Nur Khairul dan Suprihatin dari SMA Negeri 1 Klatung, Lamongan, Jawa Timur dengan karya ilmiah yang berjudul Sistem Pendingin, Tim ke-2 beranggotakan Syifa Aqila Safri dan Eli Ibrahim dari SMA Negeri 1 Cilacap, Lampung, Jawa Barat dengan karya ilmiah inovasi yang berjudul "Nature Pot" (pot yang terbuat dari limbah media tanam jamur), dan tim ke-3 beranggotakan Hani Milla Ardhi dan Ti Putu Ayu Riana Dewi dari SMA Negeri Banjar Kalimantan Selatan dengan karya temuan inovasi berjudul "Pipa-kur" (hantus yang terbuat dari daun Kelak).

Delegasi Indonesia pada YIC 2019 terpilih melalui seleksi nasional pada ajang Olimpiade Penelitian Siswa Indonesia (OPSI) dan Festival Inovasi Kejurusahan Siswa Indonesia (FISDI) tahun 2018.

Purwati Sularto, Direktur Pembinaan Sekolah Menengah Atas (PSMA), mengatakan bahwa OPSI dan FISDI merupakan ajang yang diselenggarakan oleh Direktorat PSMA, Direktorat Jenderal Pendidikan Dasar dan Menengah, Kementerian Pendidikan dan Kebudayaan, bertujuan untuk mengayak dan memantina talenta muda di bidang penelitian dan kejurusahan untuk siswa SMA.

Alexis Zepherino Marjor, dosen Institut Teknologi Bandung yang turut mendampingi delegasi YIC di Malaysia mengatakan bahwa kegiatan yang diselenggarakan oleh Access Sana Teknologi dan Inovasi (ASTI) diharapkan munculnya invention (penemuan) yang memberikan solusi atas permasalahan lokal yang dapat diaplikasikan pada konteks global. "Harapan tersebut menjadi benang merah yang dapat ditilik dari karya-karya temuan para pemenang YIC 2019."

Karya Sri Nurkhairul dan Suprihatin sangat relevan dengan permasalahan pada konteks global, yaitu fenomena pemanasan global. Temuan mereka dapat menjadi produk industri inovatif berbasis kearifan lokal, namun bernilai yang global," ungkapnya.

kemdikbud.go.id/main/blog/2019/09/peneliti-muda-indonesia-raih-medali-emas-kompetisi-internasional-young-inventors-challenge-2019

Bookmarks OutSyed The Box Association of Scie... Science Fair for You... YouTube Yahoo Malaysia Selamat datang ke... S

Tentang Kami • Jendela • Siswa • Guru • Orang Tua • Sekolah • Budaya & Bahasa • Masyarakat & Mitra • Pemerintah Daerah

Rizal Alfian dari Kementerian Pendidikan dan Kebudayaan (Kemendikbud) yang juga ikut mendampingi delegasi YIC di Malaysia menambahkan bahwa selain mendapatkan penghargaan medali emas, tim Indonesia juga mendapatkan penghargaan 1st Runner Up Pitch Video Competition pada YIC 2019. Video yang dibuat oleh para finalis YIC adalah video yang mempresentasikan temuan atau karya ilmiahnya. Penghargaan tambahan ini diberikan oleh panitia YIC sebagai wujud apresiasi dalam pengembangan kompetensi komunikasi siswa melalui media digital.

"Kemendikbud telah menjalankan fungsinya dalam pembinaan dan penjurangan talenta peserta didik untuk jenjang pendidikan menengah. Diharapkan talenta muda yang telah terjaring ini dapat ditindaklanjuti pada jenjang pendidikan tinggi. Sehingga pembinaan yang dikelola secara berkesinambungan dapat dipetik manfaatnya untuk negara dan bangsa Indonesia," ucap Rizal.

Delegasi Indonesia pada YIC 2019 setibanya di Malaysia pada tanggal 19 September 2019 disambut baik oleh Kedutaan Besar Republik Indonesia melalui perwakilan Atase Pendidikan dan Kebudayaan (Atdikbud) di Malaysia. Tim Indonesia akan kembali ke Jakarta dengan Maskapai Garuda Indonesia dengan penerbangan GA 0821 pada tanggal 23 September 2019 dan rencana tiba di Bandara Internasional Soekarno Hatta pada pukul 14.00 WIB.

Jakarta, 23 September 2019  
Biro Komunikasi dan Layanan Masyarakat  
Kementerian Pendidikan dan Kebudayaan  
Laman: [www.kemdikbud.go.id](http://www.kemdikbud.go.id)




Photo Category / National / Young inventors create device that converts noise to electricity

## Young inventors create device that converts noise to electricity

19352  
SHARES

Share it!



Updated October 22, 2019, 6:54 PM

By Dhef Nazario

A group of students from the Philippine Science High School Western Visayas Campus (PSHS-WVC) has created a device that converts noise to electricity.



(Philippine Science High School Western Visayas campus)



**PEJABAT PENDIDIKAN DAERAH KOTA KINABALU**  
**DARE TO CHANGE**

FB : FACEBOOK.COM/PPDKOTAKINABALU / TWITTER : PPDKK / INSTAGRAM : PPDKOTAKINABALU  
 Blok C & D, Tingkat 5 Bangunan KWSP 88100 Kota Kinabalu, Sabah  
 penladibrah@ppdkk.edu.my  
 Tel : 088233202 Fax : 088239450

Puan Irah Nita Bte Hj Jaman  
 Pegawai Pendidikan Daerah

## PEJABAT PENDIDIKAN DAERAH KOTA KINABALU

SALURAN INFORMASI PENDIDIKAN KOTA KINABALU

[ADMIN](#)
[UTAMA](#)
[MENGENAI PPD](#)
[DASHBOARD MAKLUMAT](#)
[ORGANISASI PPD](#)
[INFO RASMI MSSD](#)
[TAKWIM PPD](#)
[INFO UNIT PPD KOTA KINABALU](#)

[GOOGLE CLASSROOM PPD](#)

## International Level Young Inventor Challenge (YIC)

TOPICS: [Sm All Saints](#)



POSTED BY: SEKOLAH MENENGAH KERANGSAAN ALL SAINTS    OCTOBER 17, 2019

On the 22 sept 2019, Saturday, 12 of our students from SM All Saints, forming 3 teams named Slipknot, Boku and The DnS Humidifier, were shortlisted in the Grand Finale International level Young Inventor Challenge (YIC) held in MaGIC, Cyberjaya Selangor. The students did a very good study and research until they were able to produce fantastic prototypes. However, luck was not on our sides as we were facing so many potential opponents from China, Vietnam, Indonesia, Fillipine, Thailand and Cambodia besides opponets from Malaysia. Students obtained a very precious hands on minds on experience during this competition.

"QUOTE FOR TODAY"

"Life is a matter of choices, and every choice you make makes you."

Username

Password

Remember Me ☐

Login

INFO UNIT PEJABAT PENDIDIKAN

Lawatan Perkongsian Profesional PPD Ruah, Pahang ke PPD Kota Kinabalu pada 23 Oktober 2019

October 24, 2019 10:37 am



(0) UPMICT PPDKK

# REIMAGINE EDUCATION AWARDS

Reimagine Education is a global conference and competition, open to all those who are transforming education. The conference brings together edtech startups, academic faculty from top universities, Chief Innovation Officers, university leadership, teachers, and other stakeholders in the future of teaching and learning.

The Reimagine Education Awards – the 'Oscars' of Education – reward innovative approaches that enhance student learning outcomes and employability, offering \$50,000 in funding to the overall winners.

This year, 1507 educational innovators from 39 countries submitted their projects to 16 Award Categories. The shortlisted applicants, comprising the top 15% of applications, will showcase their innovations to a global audience of 600 educational leaders at the 2019 Reimagine Education Conference on the 9 December 2019, which will also see the winners of \$50,000 funding pool revealed at the prestigious Gala Dinner and Awards Ceremony.

Young Inventors Challenge project has been shortlisted for Reimagine Education Awards for K-12 category. K-12 Category seeks any innovative new pedagogical approach, technological tool, or employability-enhancing endeavour that was targeted at, or is designed for, the K12 sector. However, such projects should also either be scalable to a higher education audience, or prepare students for higher education more successfully than current approaches allow.

Jack Moran, Reimagine Education Program Manager, said: "Creativity, Critical thinking. Communication, as the world becomes ever-more-complex and its challenges ever-more-numerous, we need to nurture students with these skills more than ever. In particular, by nurturing these skills, the education system can help to foster the inventors of the future, whose innovative solutions can help us secure a more prosperous, propitious future."

"Reimagine Education is proud to support initiatives that are working to cultivate the creativity of young people, and the Young Inventors' Challenge – the Association of Science & Technology Innovation's flagship project – is a wonderful example of how young people can be taught to incept, implement, and invent. In particular, the Reimagine Education Steering Committee commend it for its clear evidence of scalability, its pioneering nature – it is the only project in Malaysia of its kind – and the success that its participants are having in numerous other competitions that attempt to reward youth innovation. We can't wait to see how it progresses, and congratulate its founders wholeheartedly."



# RECOMMENDATIONS 13 FOR THE FUTURE

## YIC EVENT COMMITTEE STRENGTH AND WEAKNESS

### Strength

- Experienced Head of Departments
- The flow of participants was managed well from Gap Space room to Auditorium during the opening and prize-giving ceremony
- The accommodation was near to the venue and ease the transportation of volunteers in the morning
- Excellent teamwork and cooperation from all facilitators
- Great networking and team building
- All the rooms (secretariat room, VVIP room, judging room and teachers briefing room) located in one building and it was easy to manage
- The booth setup and hall setup were approved two days earlier, made the pre-preparation easier
- Registration went smoothly
- All the volunteers were helpful and could multitask

### Weakness

- Space for sitting arrangement very limited at the auditorium and not able to accommodate seating for all the students and mentors
- NO press members turn up for the event although we have received a good response during the follow up before the event
- Lack of coordination among the Head of Department's during the opening and prize-giving the ceremony
- Booth separation in different areas and rooms, challenging for the people to understand the flow

# YIC WORKING GROUP COMMITTEE

## Swot Analysis and Recommendations

### Strength

- Consecutively completed 7th year challenge successfully with new participating countries (Timor Leste, Vietnam, Brunei)
- The new theme “Sustainable Development Goals (SDGs)” received well by all participants
- Great facilitators management
- Experienced Project Director and Chief Judge
- Increased international participation
- Good international media coverage
- Attracted more school for participation
- Cost savings from online training
- Very successful Facebook live training
- VVIP arrival was on time
- Good coordination for overall YIC programme
- MAGIC allowed us to do the set up earlier
- To have some of the prize-giving session during the opening ceremony
- Time management was good
- Facebook live during the event was good (Social media)
- Many committed and qualified judges (90)
- Many new judges
- The inventions attempted to solve real community problems

### Weakness

- Insufficient Funding
- Many teams did not watch all the training videos
- Insufficient seating capacity
- Poor Location accessibility (Cyberjaya)

### Threat

- Funding
- Publicity
- Strong competitions

### Opportunity

- Course/Competition on commercialisation
- Project paper writing for a journal publication
- Possibility of product commercialisation
- Schools from more countries
- More event broadcasting

### Recommendations

- Increase Facebook Live Training (for all sections)
- Look for more sponsors
- Train future project committee member
- More publicity
- Improve and add more online video
- Training on commercialisation post-event (Business Plan Writing Competition)
- Publicity via social media live interviews

13

SM ST MICHAEL, PENAMPANG SARAWAK  
TEAM 2008



# S.W. GENERATOR

SM. St. Michael, Penampang, Sabah Cluster School of Excellence

Telephone : 088-711541 Fax : 088-712541 E-mail : xfe4117@moe.edu.my

### PROBLEM STATEMENT

The number of people with access to electricity has increased and as the global population continues to rise so will the demand for cheap energy. The world will do not use renewable energy and new ways in their daily lives. This is because the equipment needed to produce renewable energy is very expensive.

### THEME

The S.W. Generator is designed to ensure access to electricity for all. The S.W. Generator does not use any type of fossil fuel.

### DIAGRAM WITH SPECIFICATIONS

EARLY SKETCHES OF PROJECT



### FINAL PRODUCT





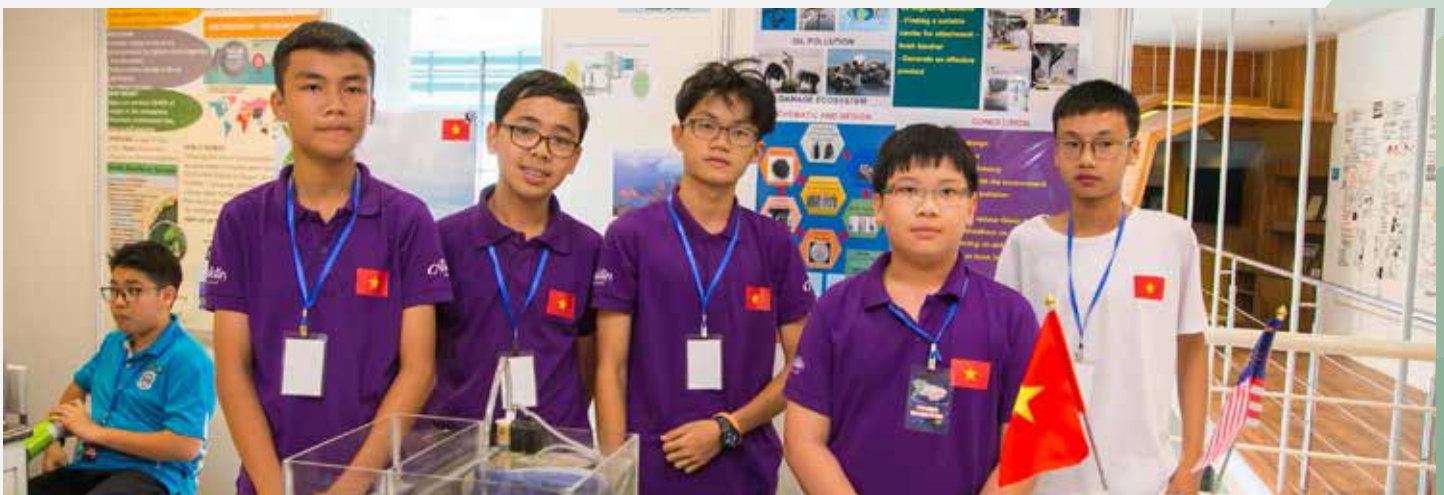
# 14 *CONCLUSION*

In conclusion, YIC 2019 was a great success. We have attracted a number of teams from different states in Malaysia, as well as from other countries, including the Philippines, Thailand, Singapore, China, Indonesia, Brunei, Vietnam and Timor Leste. In addition, this year, we also received participation from new countries, including Brunei, Vietnam and Timor Leste. It should be noted that several schools from countries like Philippines, Thailand, Singapore, China and Indonesia have been participating continuously in YIC 2015.

Our survey shows a high level of satisfaction from all of our stakeholders. We believe that this program shall serve as an excellent platform for young creative and inventive students to showcase their talent and possibly build their career in this area. We are working towards achieving our aim of creating inventors among the students as the participants learn the concept of invention and innovation.

We would like to thank all our funders, judges, and volunteers who continuously support us in making YIC 2019 an overall success.









**Association of Science, Technology & Innovation (ASTI)**  
(PPM-012-10-25102012)

No. 16A, Jalan 21/12, Sea Park, 46300 Petaling Jaya, Selangor Darul Ehsan.

Email : [asti2510@gmail.com](mailto:asti2510@gmail.com)

Tel/Fax : +603 - 7877 8571 | +603 - 7865 5557 (9am - 5pm)

**[www.asti.org.my](http://www.asti.org.my)**