



2022 REPORT





2022 REPORT



Young Inventors Challenge 2022 Special Edition Report

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YIC 2022 Working Group Committee and ASTI R&D Department

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Sritharan Krishnamohan

OUR HEARTFELT THANKS!

Ministry of Education (MOE)

State Education Departments (JPN)

Ms. Florence Tan

Chair of the Small Spacecraft Coordination Group (SSCG) at NASA Headquarters
Deputy Chief Technologist (DCT) for NASA's Science Mission Directorate (SMD)

CIMB Foundation

Yayasan Hasanah

Kolej Yayasan UEM

Tenaga Nasional Berhad

And

To all

Participants, Mentors, Headmasters, Headmistress,
Judges, Volunteers, Supporters, Champions of Sustainability,
and Committee Members



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Dr. Nur'ain Binti Salehen

Mr. Karunakaran Karthigeyan

TABLE OF CONTENT

Executive Summary	01
About ASTI	02
1.0 Introduction	03
2.0 Mode of Implementation	07
3.0 Online Training	12
4.0 The Online Event and Judging	20
5.0 Funding and Budget	44
6.0 Survey Analysis	46
7.0 Achievement of the Project	55
8.0 Recommendations for the future	57
9.0 Conclusion	59



EXECUTIVE SUMMARY

As the world emerges out of the Covid 19 pandemic, many countries across the globe are converging at Egypt for COP 27 to tackle new challenges in climate change, environmental problems and sustainability issues that are ever increasing.

Sustainable Development Goals is once again chosen as the theme of this year's Young Inventors Challenge (YIC). Young Inventors Challenge is a small step in getting young minds to think towards solving issues and problems facing us globally.

The Young Inventors Challenge Special Edition 2022 marks our 10th year anniversary and the third year of Special Edition. It is a landmark year for YIC. It aims to nurture young inventors and to foster high school children to cooperate as a team to find innovative solutions to current day problems.

Young Inventors Challenge Special Edition 2022 open once again to secondary school students aged 13 to 17 and we encourage the teams to be in groups of 2-5 students of different cultural background to come together in an inventive process. The purpose of the programme is to encourage creativity and inventive capability of young people. This year's theme is both global and open ended; with the hope that it can open the young adult's minds to think broadly and inclusively.

This year we have received almost to 451 applications from Asia as well from almost all the ASEAN countries. After the initial registration process, a total of 358 teams have submitted their invention proposals. A total of 166 team have been shortlisted for the next round of competition which is the Invention Pitch Video and Report submission. Based on their videos and report submissions, top 21 teams have been shortlisted for viva sessions. This year's Young Inventors Challenge Special Edition 2022 Virtual Winners Announcement Ceremony held on 17th of November 2022.

This event would not be possible without the financial assistance and grants from our funders, many of whom are continuously supporting us year after year. Our funders among others are: CIMB Foundation, Kolej Yayasan UEM, Tenaga Nasional Berhad and Yayasan Hasanah.

We at ASTI hope projects such as YIC will continue to be a platform for budding inventors to find solutions and contribute their ideas to the world. We are grateful to all our partners and stakeholders who have come together and share the same dream to build a nation of innovative inventors.

ABOUT ASTI

The Association of Science, Technology, and Innovation (ASTI) is an association of educators, scientists, industry representatives, and individuals who are committed to 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.

1.0 INTRODUCTION

1.1 Background of YIC

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 hands-on approach where learning is achieved from discovering scientific principles themselves. In order to achieve this vision ASTI has designed 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), ASTI Feynman Challenge (AFC), Young Inventors Journal (YIJ) and others. Each of these programs are interlinked in order to provide a holistic and inclusive platform for young students.

YIC is part of this vision, where it requires teams of up to 2-5 students 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 was remarkable ever since – the project has been growing at almost 100 percent year to year with over 100 teams participating and about 3000 students participating in 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 to 2022. In 2019, YIC was also shortlisted from over 1500 education projects from around the world to participate in the conference and competition called “Reimagining Education” held in London that was organised by the respected rating agency, QS international. YIC was also recognized as the top 10 projects run by an ALUMNI of the International Visitors Leadership Programme (IVLP) conducted by the US State department.



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 24 August 2013.



In 2014, similar theme was retained; **“GREEN INVENTIONS: IDEAS ON SUSTAINABILITY”** and a total of 49 teams were participated in the Grand Finale which was held at Dewan Dr.Siti Hasmah, Rumah Puspanita on the 20 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 19 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. 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 countries in Asia. The theme **“INVENTIONS TO SERVE...”** was retained 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 **“INVENTIONS TO SERVE...”** was maintained. 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 were participated.



YIC 2019 is our 7th-year event, and we have launched a new theme, **Sustainable Development Goals (SDGs)**. 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 132 groups showcasing and presenting various innovation ideas.



In 2020, due to the outbreak of Covid-19 pandemic, ASTI has launched YIC 2020 Special Edition. YIC 2020 Special edition was conducted through a submission of video-based inventions and a report by participating teams via online which minimizes their need to travel and allows them to continue their work safely. We received a total of 357 applications of which 146 teams submitted proposals with a wide range of ideas related to the theme from Malaysia, Indonesia,

Thailand, Singapore, Brunei, Philippines and India. We then shortlisted 115 teams to participate in the final competition. As of 15 September 2020, 95 teams had successfully submitted their Invention Pitch Video and Project Report from 7 countries, which was marked by 60 panel of judges. On the 20 October 2020, we announced the TOP 20 teams which qualified for the Online Viva Session. The VIVA session was conducted on the 21 and 22 November 2020 to determine the winners. Finally, on the 5th of December 2020, we announced the platinum, gold, silver and bronze categories winners via virtual prize giving ceremony, through a Facebook Live session.



ASTI launched YIC 2021 Special Edition with similar theme ***Sustainable Development Goals (SDGs)***. We received a total of 352 applications of which 283 teams submitted proposals from Malaysia, Indonesia, Thailand, Singapore, Brunei, Philippines, and Timor Leste. We had shortlisted 150 teams to participate in the final competition via Invention Pitch Video and Project Report submission. As of 10 September 2021, 131 teams had successfully submitted their Invention Pitch Video and Project Report from 7 countries which were marked by 63 panel of judges. On the 13 October 2021, we informed the TOP 20 team who was qualified for the Online Viva Session. The VIVA session was conducted on the 30th October 2021 to determine the One (1) Platinum, Two (2) Gold, Seven (7) Silver and Ten (10) Bronze award winners. On the 20 November 2021, we announced the winners via virtual prize giving ceremony.

This year is our 10th year anniversary, we continued with YIC 2022 Special Edition and we received a total of 451 applications of which 358 teams submitted proposals related to the theme from Malaysia, Indonesia, Thailand, Singapore, Brunei, Philippines, India and United Kingdom. We had shortlisted 166 teams to participate in the final competition via Invention Pitch Video and Project Report submission. As of 14 September 2022, a total of 121 teams had successfully submitted their Invention Pitch Video and Project Report from 8 countries which has been marked by panel of 80 judges.

On the 14 October 2022, we informed the TOP 21 team who has been qualified for the Online Viva Session. The VIVA session was conducted on the 29 October 2022 to determine the One (1) Platinum, Two (2) Gold, Seven (7) Silver and Eleven (11) Bronze award winners. On the 17 November 2022, we announced the winners via virtual winners announcement ceremony.

1.2 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.
- 💡 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.

1.3 Target Group

- 💡 Young people aged between 13 and 17 (From 1 to 5).
- 💡 A team consisting of 2– 5 young people.
- 💡 Teams made up of different cultural backgrounds are highly encouraged.

1.4 Preferred Output and Outcome

Preferred Output	Preferred Outcome
Understand the invention thinking process	Participants understand, and practice/apply Sustainable Development Goals (SDGs)
Understand the Theme: Sustainable Development Goals (SDGs)	Participants with confidence to think and communicate with creative and critical thinking
Learning to work in a team using a collaborative approach	Participants who can work in a multidisciplinary and collaborative manner
Understand project creation and management processes and tools	Participants with the ability to start and complete a project
Ability to produce a functional prototype	Participants who can develop real solutions and products

Table 1: Preferred Output and Preferred Outcome

2.0 MODE OF IMPLEMENTATION

2.1 Promotion and Publicity

- 💡 This year we were entirely focused on Online Promotions and the official launch was conducted on the 30 March 2022, 5pm via YouTube Live Session.



The poster features a dark space background with a planet and stars. On the left, the 'Young Inventors Challenge' logo is displayed with a green stylized figure and a lightbulb. A red banner below it says 'Special Edition 2022'. On the right, a circular graphic with a megaphone icon contains the text 'STAY TUNED', 'LAUNCHING SOON', and 'ON YOUTUBE LIVE'. The main text in the center describes the challenge and provides event details.

Young Inventors Challenge (YIC) requires teams of 2-5 young people aged 13-17 to put their minds together to solve a problem that they have identified by producing an invention/innovation. YIC is an International Competition and this year we are celebrating our 10th year Anniversary.

Save the Date and Time

Date: 30 03 22 **Wednesday**

Time: 5 pm

Link: <https://rb.gy/n2m3m>

For further details, kindly visit <https://www.asti.org.my/yic2022/>

Organized By:  **Funded By:**   



Young Inventors Challenge 2022 Launching



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Information flyers, Promotional Video and Application Call Letters were sent out via emails, Facebook post and Instagram Post.



Theme: "Sustainable Development Goals (SDGs)"

The Competition

The Young Inventors Challenge 2022 Special Edition (YIC 2022) is our 10th Invention/Innovation competition which aims to encourage secondary school students aged 13 - 17 to cooperate as a team (2-5 students) to find innovative solutions to current day problems. As the organizers of the YIC, ASTI (Association of Science Technology and Innovation), would like to continue with Young Inventors Challenge Special Edition for the 3rd year in 2022, due to the uncertain situation of Covid-19 pandemic and travel restrictions. Therefore, YIC 2022 will be conducted Online via Proposal Submission, Invention Pitch Video and Report Submission.

The Objective

The objectives of YIC are:

- To develop future inventors.
- To give an opportunity to young and future inventors to develop and present their inventions.
- To help and train young inventors to experience the inventive cycle, from conceptualisation to product/prototype.
- To introduce the idea of 'using inventions as a means to make a positive change in society'.
- To train young people in Problem Identification and Solution finding.

The Benefits to the Participants

By participating in YIC, the participants would also:

- Produce an original invention and receive recognition for participating in the event.
- 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.

Who Can Participate?

- Young people aged between 13 and 17 (Form 1 to 5).
- A team consisting of 2 - 5 young people.
- Teams made up of different cultural background (Highly Encouraged).

The Awards

- 1 X Platinum Award - RM 2500 with Digital Certificates
- 2 X Gold Awards - RM 1500 each with Digital Certificates
- 7 X Silver Awards - RM 750 each with Digital Certificates
- 10 X Bronze Awards - RM 400 each with Digital Certificates
- All participants will be awarded a Digital Certificates of Participation.

What the TERMS have to do?

The United Nation's Sustainable Development Goals (SDGs) are the blueprint to achieve a better and more sustainable future for all. They address the global challenges that we are facing, including those related to poverty, inequality, climate, environmental degradation, prosperity, peace and justice and many more. There are 17 SDGs.

This year's YIC theme is; Invention to address issues discussed in Sustainable Development Goals (SDGs). You are required to invent a product and/ or process that is able to provide resolution to a certain level, and have an impact on Sustainable Development Goals (SDGs).

Participants are required to innovate and produce a working prototype and/ or a working scaled model. A report and pitch video are also required with the aim to commercialize or to put in practice the invention.



[*https://www.un.org/sustainabledevelopment/sustainable-development-goals/](https://www.un.org/sustainabledevelopment/sustainable-development-goals/)

How to Participate?

30 APRIL 2022	1	Form a Team of 2 to 5 people aged 13-17 years old and Submit Registration via google form link (https://forms.gle/BR1KJRJUQiAnuASi5) or email registration form to yic2510@gmail.com
30 APRIL - 27 MAY 2022	2	ASTI emails out Young Inventors Challenge Students Manual and Proposal Writing Guidelines. Develop the Invention Proposal following the format given in the Students Manual and Proposal Writing Guidelines.
27 MAY 2022	3	Submit invention proposal via google form link (https://forms.gle/K9WYUD7p8UorcoXVA) or email to yic2510@gmail.com
Mid JUNE 2022	4	Shortlisted teams will be notified via email
JUN-AUG 2022	5	Shortlisted teams will be guided with Online Training
JUL-AUG 2022	6	2 months to develop "Working Prototype"
26 AUG 2022	7	Shortlisted Teams submits 1) Invention Pitch Video 2) Project Report
Mid OCT 2022	8	Viva session with the top 20 teams
NOV 2022	9	Winners Announcement

For Registration and More Details Please Visit:
www.asti.org.my/yic2022

For further details, kindly contact Ms. Vanitha Vasu via email to yic2510@gmail.com or WhatsApp to 014-7124217

- 💡 Promotional flyers and materials were sent out as below:
 - ⚙ Emails to Jabatan Pendidikan Negeri
 - ⚙ Emails to SMK Schools
 - ⚙ Emails to International and Private Schools
 - ⚙ Emails to YIC 2013-2021 Participants
 - ⚙ Emails to 22 Embassies in Malaysia
 - ⚙ WhatsApp Messages to over 3000 contacts
- 💡 Additionally, Bahagian Sukan, Kokurikulum Dan Kesenian has send out “Surat Hebahan” to all Jabatan Pendidikan Negeri and Pejabat Pendidikan Daerah.
- 💡 Several phone call follow-ups and “ word of mouth ” ads was carried out.
- 💡 Frequent Facebook Post was done to increase the number of registration and participation.

2.2 Participants Registration

After the official launch and Promotions, the interested students were requested to form a team of 2-5 students. Each team is required to have at least one Mentor and submit their registration to ASTI. ASTI had received a total of 451 registration as of 30 April 2022. Upon receiving the registration, the teams were sent an email with the Students’ Manual and Proposal Writing Guideline Video as a guideline for the preparation of their Invention proposals.

2.3 Proposal Submission by Participants

As of 3 June 2022, ASTI received a total of 358 proposals with a wide range of ideas related to the theme from Malaysia, Indonesia, Thailand, Singapore, Brunei Darussalam, Philippines, India and United Kingdom.

2.4 The Judging Process: Proposal Marking and Shortlisting

- 💡 Each proposal that was received was reviewed by three different judges.
- 💡 The judges received the proposals together with the marking spreadsheet and the guidelines for marking, via email.
- 💡 A total of 111 judges consisting of academics and industry experts have volunteered their time to evaluate the proposals.
- 💡 The results of each proposal were cross-referenced.
- 💡 A total of 166 best proposals were shortlisted, and the shortlisted teams were notified by e-mail on the 1 July 2022.
- 💡 Table 2 shows the breakdown of applications received, proposals received and shortlisted teams for YIC 2022; according to states in Malaysia and other countries.

No	Country/State	Total Registration	No of Proposals	No of Shortlisted
1	Johor	17	12	1
2	Melaka	5	5	3
3	Negeri Sembilan	11	6	3
4	Selangor	47	35	18
5	Perak	10	7	4
6	Penang	33	23	11
7	Kedah	9	4	1
8	Pahang	14	9	3
9	Terengganu	13	12	6
10	Perlis	1	1	0
11	Sabah	17	14	2
12	Sarawak	36	34	12
13	WPKL	20	13	4
14	WPPutrajaya	7	7	4
15	Thailand	93	72	27
16	Philippines	95	83	53
17	Singapore	11	11	7
18	BruneiDarussalam	6	6	3
19	India	1	1	1
20	South Africa	1	0	0
21	United Kingdom	1	1	1
22	Indonesia	33	2	2
TOTAL		451	358	166

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

3.0 ONLINE TRAINING

In order to ensure that the training methodology is consistent and standardized for all the participants, the working group has decided to conduct Online Trainings via YouTube Live Sessions. The working group committee believes that Online Trainings are a cost-effective way of providing training to the participants.

3.1 Preparation of the Online Training Materials

The Working Group Committee together with ASTI's R&D department developed the content, materials and PowerPoint presentation slides for the Online Trainings. Training videos were also recorded for streaming live with Working Group Committee members being the Trainers.

3.2 Publishing Online Training Videos

Online Trainings were conducted via ASTI's YouTube Channel as per details below:

Date	Titles	Description
20 April 2022	Question and Answer Session 1	Questions and Answer Sessions with Participants: Mr.Anandan Shanmugam and Mr Tan Cher Hao conducted Question and Answer session with the participants addressing Frequently Ask Questions related to registration and proposal writing.
11 May 2022	Online Training 1: YIC, Invention and Innovation, SDGs	YIC, Invention and Innovation: Provides an introduction to the participants on the inventions and innovation categories Sustainable Development Goals (SDGs): Layout all the 17 SDG Goals with example of inventions and innovations related to it. Trainers: Mr.Anandan Shanmugam Ts.Dr.Umaiya Munusamy.

Date	Titles	Description
18 May 2022	Online Training 2: Problem Identification & Project Management	<p>Problem Identification : Explains various problem identification methods</p> <p>Project Management: Provides steps by step procedures and guideline on conducting a project.</p> <p>Trainers: Dr Mohamed Yunus Yasin Lieutenant Colonel Ir.Ts. Dr. Vikneswaran Munikanan (Retired)</p>
27 July 2022	Online Training 3: YIC Processes after shortlisting and Guideline on Invention Pitch and Report	<p>YIC Processes after shortlisting: Provides details on the steps and timeline the participants need to follow after shortlisting</p> <p>Guidelines for Invention Pitch Video and Report: Gives explanation on the requirements for Invention Pitch Video and Project Report and submission deadlines.</p> <p>Trainers: Mr.Karunakaran Karthigeyan Dr.Nur'ain Salehen</p>
10 August 2022	Online Training 4: Judging Criteria	<p>Judging Criteria for Invention Pitch Video and Report Writing: Gives a guideline to the participants on the marking criteria for the Invention Pitch Video and Report.</p> <p>Trainers: Mr.Tan Cher Hao Mr.Faizal Noor Batcha</p>
24 August 2022	Question and Answer Session 2	<p>Questions and Answer Sessions with YIC Panels and Participants: Gives final guidelines and assistance to the participants on the Invention Pitch Video and Project Report Preparation</p> <p>Trainers: Mr.Anandan Shanmugam Dr.Nur'ain Salehen</p>

Table 3 : Online Training Schedules

3.3 Online Training Details and Pictures

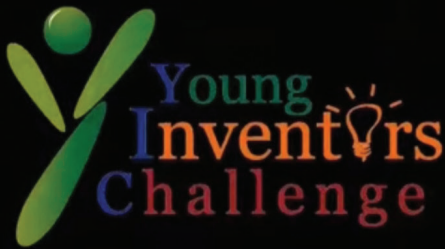
Question and Answer Session 1

<https://www.youtube.com/watch?v=zVWAYwDsSss>





Online Training 1: YIC, Invention and Innovation, SDGs

<https://www.youtube.com/watch?v=3VD-6iPx72E&t=189s>




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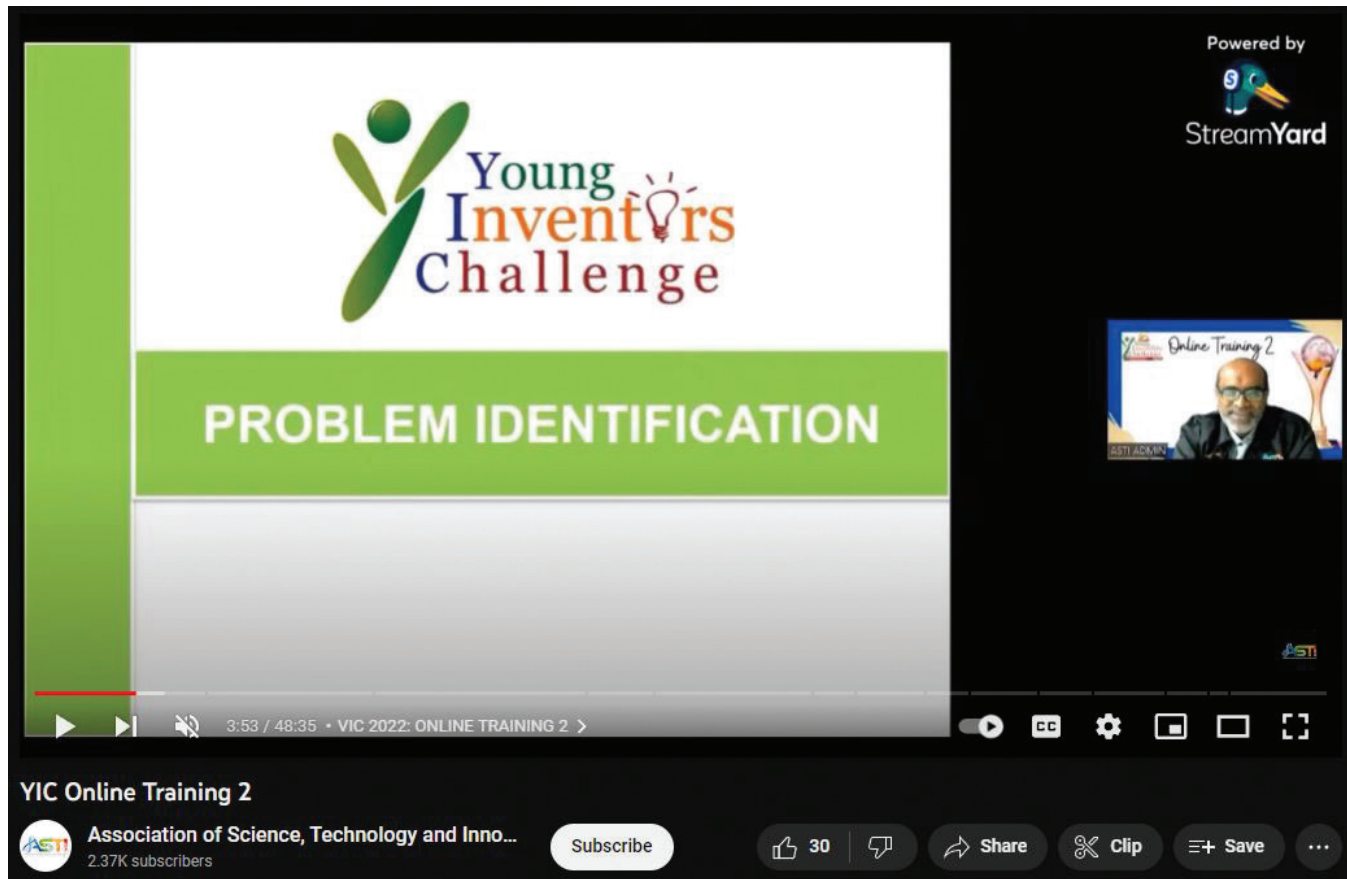
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Online Training 2: Problem Identification&Project Management

<https://www.youtube.com/watch?v=nfUVsO1Pqc4&t=333s>



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Young Inventors Challenge

PROBLEM IDENTIFICATION

3:53 / 48:35 • VIC 2022: ONLINE TRAINING 2 >

YIC Online Training 2

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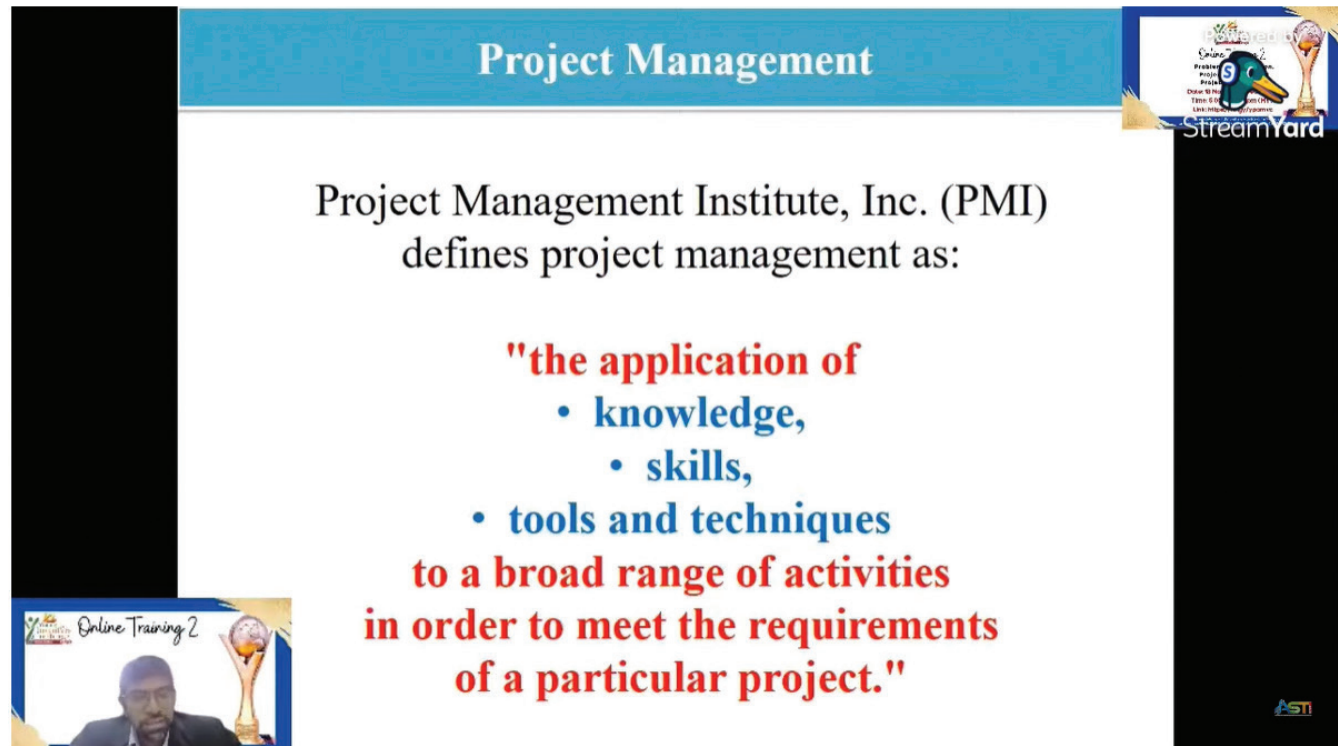
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Project Management

Project Management Institute, Inc. (PMI) defines project management as:

"the application of

- knowledge,
- skills,
- tools and techniques

to a broad range of activities in order to meet the requirements of a particular project."

ASTI

YIC Online Training 2

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Online Training 3: YIC Processes after shortlisting and Guideline on Invention Pitch and Report

https://www.youtube.com/watch?v=vY1E_taj37E&t=24s

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YIC 2022 SPECIAL EDITION PROCESSES

Step	Activity	Timeline
1	Live Training for Teams	27 July 2022 10 August 2022 24 August 2022
2	Invention Preparation by Teams	July- August 2022
3	Teams submit 1) Invention Pitch Video 2) Project Report	14 September 2022
4	Marking & finalization of Top Shortlisted Team	September- October 2022
5	Announcement of Top 20 team and Viva Session	October 2022
6	Winner Announcement	November 2022

YIC Online Training 3
2,132 views 6 mo ago ...more

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REQUIREMENTS/GUIDELINES FOR INVENTION PITCH VIDEO

The video must not exceed 5 minutes in duration and describes the following:

Content

3. What is your invention/innovation?

- Invention/innovation title
- Describe your invention/innovation
 - Originality of your invention/innovation
 - How your invention/innovation will solve the problem stated
- Show your working prototype or simulation
 - Creativity and clarity

7

YIC Online Training 3

Association of Science, T...
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Online Training 4: Judging Criteria

<https://www.youtube.com/watch?v=ioevGcKlaWg&t=11s>

Session Introduction

At the end of this session you should:

- Understand the scoring mechanism for the Invention Pitch Video
- Understand the scoring mechanism for the Report Writing
- Understand the submission process and submission deadline

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YIC Online Training 4

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**JUDGING CRITERIA FOR
INVENTION PITCH VIDEO AND
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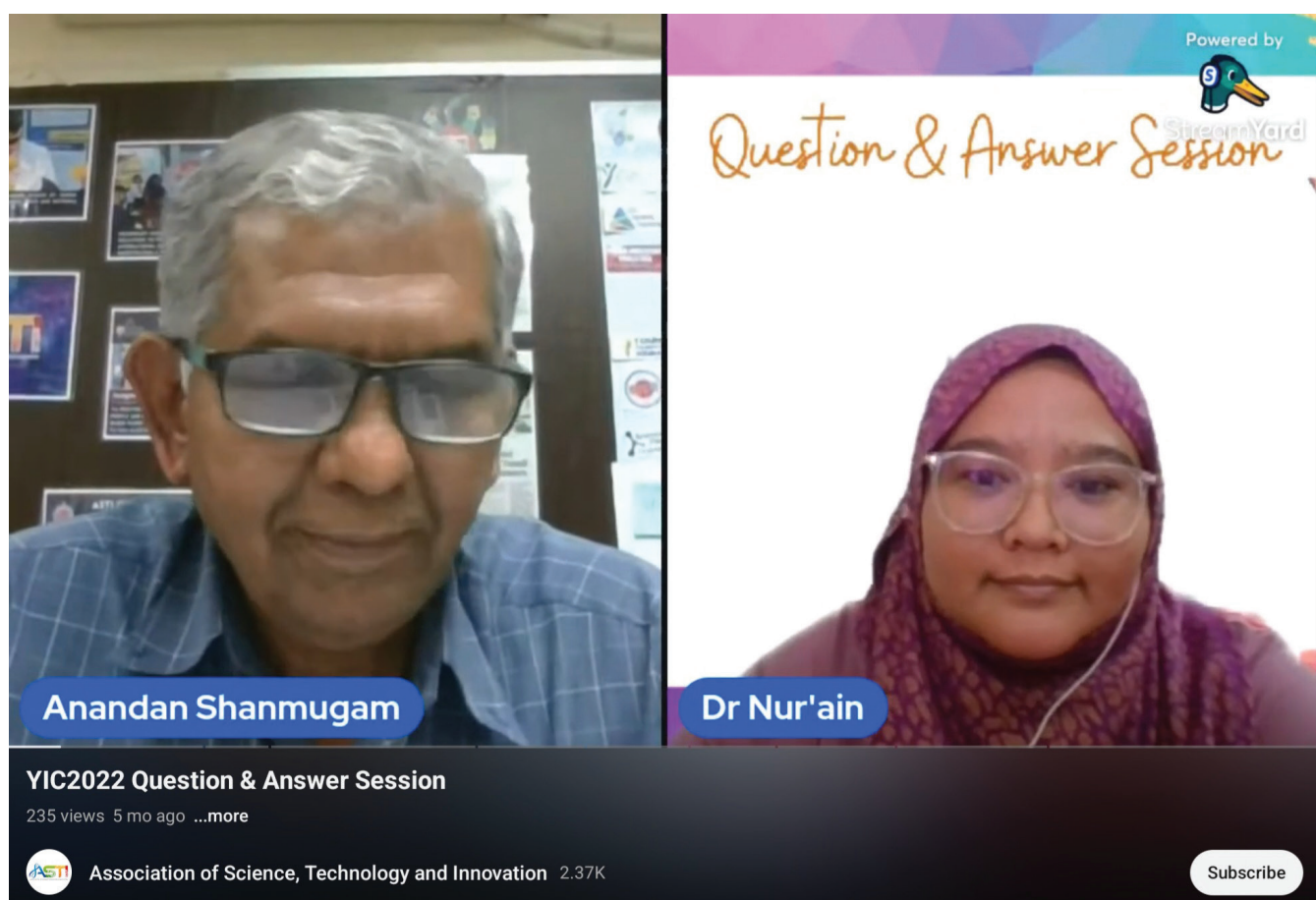
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375 views · Streamed 3 months ago

Question and Answer Session 2

<https://www.youtube.com/watch?v=8M-Rr0as6J8&t=3s>



4.0 THE ONLINE EVENT AND JUDGING

4.1 YIC 2022 Special Edition Participants

A total of 166 teams were shortlisted to take part in the Young Inventors Challenge 2022 Special Edition via Invention Pitch Video and Project Report Submission. A total of 121 teams have successfully completed this stage of the competition by submitting their 5 minutes invention pitch video and 5 pages project report by the 14 September 2022. Table 4 shows the List of Teams Participated in YIC 2022 Special Edition.

No	Country	School Name	Team Name
1	Brunei Darussalam	Sekolah Menengah Berakas	Team Articulate Intellect
2	Brunei Darussalam	Ma'had Islam Brunei	The Green Queens
3	Brunei Darussalam	Sekolah Menengah Berakas	Team zenith mogul
4	India	Excel Public School, Mysore	BE-Four and After
5	Indonesia	SMAN 7 Yogyakarta	Copcus Team
6	Indonesia	Man 2 Kota Malang	Ngelab Team
7	Malaysia	SMK Methodist, Banting	5 Brother's Enterprise
8	Malaysia	SMK Seri Puteri	Achievers
9	Malaysia	SMK Jalan Arang	Arangian
10	Malaysia	Kolej Yayasan Saad	Atreiders
11	Malaysia	SMK Bukit Assek Sibu	BA Acedemy
12	Malaysia	SMK Seri Puteri	Big Dreamers
13	Malaysia	Wesley Methodist School Kuala Lumpur (International)	Bingles
14	Malaysia	SMK Bukit Assek Sibu	Capiries
15	Malaysia	SMK Datuk Onn, Butterworth	Crowd Science Squad
16	Malaysia	SMK Damansara Jaya	DJ Swift-robowis
17	Malaysia	SMK Putrajaya Presint 16 (1)	Dream Amigos
18	Malaysia	SBP Integrasi Gopeng	DRK IGOP
19	Malaysia	SMK Padang Negara	Fasi

No	Country	School Name	Team Name
20	Malaysia	SMK Heng Ee	Figaro
21	Malaysia	Kolej Yayasan Saad	Fusion Industries
22	Malaysia	SMK Sri Acmar & SMK Setia Alam	Geniverse
23	Malaysia	MRSB Bentong	Godzilla
24	Malaysia	SMK Kai Chung	Green Vibes
25	Malaysia	MRSB Bentong	Haegerchi
26	Malaysia	SMK Tinggi Kuching	Harvest
27	Malaysia	Sultan Muhammad Jiwa Science Secondary School	Inferno
28	Malaysia	MRSB Sultan Azlan Shah	IR 4.0 SAS
29	Malaysia	SMK (A) Tun Ahmad Zaidi	Jabir Ibnu Al Hayyan Tunaz
30	Malaysia	MRSB Kota Putra	KOPU 1
31	Malaysia	MRSB Kota Putra	KOPU 2
32	Malaysia	MRSB Kota Putra	KOPU 3
33	Malaysia	SMJK Chung Ling Butterworth	LTS Engineering
34	Malaysia	SMK Tunku Abdul Rahman, Nibong Tebal	Mastermind Group
35	Malaysia	Nilai International School	NIS Team
36	Malaysia	SMK Abdullah Munshi	Renegades
37	Malaysia	SMK Bintulu	Rick Rolled
38	Malaysia	SMK Tat Beng	Robust Teens
39	Malaysia	Tanarata International Schools	Robust Teens
40	Malaysia	SMK Sultan Abu Bakar, Kuantan	SABS Sea Blues
41	Malaysia	SMK ST. Anthony, Sarikei	SAS TITAN
42	Malaysia	SMK Putrajaya Presint 16 (1)	Scimode
43	Malaysia	SMK Luar Bandar No.1 Sibul	SMK LBS
44	Malaysia	SMK Seksyen 1 Bandar Kinrara Puchong	SMK S1BK Cougar
45	Malaysia	SMK Seksyen 1 Bandar Kinrara Puchong	SMK S1BK Leopard

No	Country	School Name	Team Name
46	Malaysia	SMK Tunku Abdul Rahman	Star Blossom
47	Malaysia	SMK (P) Taman Petaling	Stemflex
48	Malaysia	SMJK Chung Ling Pulau Pinang	Team Bob
49	Malaysia	SMK Seri Omega	Team I
50	Malaysia	SMJK Chung Ling Butterworth	Team Piezo
51	Malaysia	SMK King George V	Technominds
52	Malaysia	SMK Cyberjaya	Teen Triumph
53	Malaysia	SMK Datuk Onn Butterworth	Teenature
54	Malaysia	SMK Tun Tijah	Tejass Agile
55	Malaysia	SMK ST Anthony Sarikei	The 3 Dominators
56	Malaysia	SMK (L) Methodist Sentul	The Grey Egret
57	Malaysia	SMK Cyberjaya	The Revolutionaries
58	Malaysia	SMK Tat Beng	The Seventh Inventor
59	Malaysia	SMK Tawau	The Unic
60	Malaysia	SMK Tropicana	Tropbotz1
61	Malaysia	SMK Agama Kuala Selangor	Universal Prime
62	Malaysia	SMK Raja Mahadi Klang	Water World
63	Malaysia	SMK Kai Chung	Young Elite Team
64	Malaysia	SMK Kota Kemuning, SMK USJ 12	Pythoners
65	Malaysia	SM All Saints	The Lab Ratz
66	Philippines	San Nicolas National High School	5-4-6 (Five Inventors For Sdg Goal No. 6)
67	Philippines	Philippine Science High School - Caraga Region Campus	CRC
68	Philippines	Doroteo S. Mendoza SR. Memorial National High School	Dormehi
69	Philippines	Doroteo S. Mendoza SR. Memorial National High School	Dormenians
70	Philippines	Doroteo S. Mendoza SR. Memorial National High School	Doroteans

No	Country	School Name	Team Name
71	Philippines	Iligan City East National High School	In-five-nity
72	Philippines	Philippine Science High School - Central Visayas Campus	Likha (Leading Leading Innovator Kids On The Hunt For Advancement)
73	Philippines	Daniel R. Aguinaldo National High School	Luvenum Novatores
74	Philippines	Mambog Elementary School	Mambog Robotics Team
75	Philippines	Medina National Comprehensive High School-senior High School	Medina NCHS Aquabrain
76	Philippines	Philippine Science High School - Ilocos Region Campus	PSHS-IRC Team B
77	Philippines	Alaminos City National High School	Rascobratz
78	Philippines	Alaminos City National High School	Robodroids
79	Philippines	Iligan City East National High School	Santa Innovators
80	Philippines	San Nicolas National High School	Sukisuknicolas
81	Philippines	Looc National High School	Team Beyonce (Beyonnd Science)
82	Philippines	Recto Memorial National High School	Team Bio-wise
83	Philippines	Philippine Science High School - Central Visayas Campus	Team Chemcheck
84	Philippines	Philippine Science High School Cagayan Valley Campus	Team Illucenthia
85	Philippines	Philippine Science High School - Ilocos Region Campus	Team Larinag
86	Philippines	PSHS-CVISC	Team Liksi
87	Philippines	Iligan City East National High School	Temaeco
88	Philippines	Recto Memorial National High School	The Invectors
89	Philippines	Recto Memorial National High School	The Mdfier
90	Philippines	Roxas National Comprehensive High School	The Robotics Rnchsians
91	Philippines	Alaminos City National High School	Alatechbotics
92	Philippines	Sinait National High School	Ilocaknows

No	Country	School Name	Team Name
93	Philippines	Alaminos City National High School	Likha(Automated Drying and Quality Controlling System For Rice Varieties)
94	Philippines	Alaminos City National High School	Power Rangers
95	Philippines	Kabasalan Science and Technology High School	The Innovatorz
96	Singapore	Anglican High School	Fishy Friends Forever
97	Singapore	Anglican High School	Team
98	Singapore	Kranji Secondary School	Team 6093
99	Singapore	Anglican High School	Team Wally
100	Singapore	Anglican High School	Uglies
101	Singapore	School Of Science and Technology, Singapore	Under Pressure
102	Thailand	Varee Chiangmai School	346
103	Thailand	Srinagarindra The Princess Mother School Phuket and Phuketwittayalai School	Beta Swpk
104	Thailand	Phimanphittayasan School	Better Sea - Better Life
105	Thailand	Bungkan School	BK Innovation
106	Thailand	Srinagarindra The Princess Mother School, Phuket	DAW ' SWPK
107	Thailand	Princess Chulabhorn Science High Schools Pathum Thani	Enviminor
108	Thailand	Yupparaj Wittayalai School	Gryffindorace
109	Thailand	Non Sa-at Pitthayasan School	Nop Inventor 1
110	Thailand	Varee Chiangmai School	Peen
111	Thailand	Piyamaharachalai School	PY Fruit Flies
112	Thailand	Varee Chiang Mai	QC Mangosteen
113	Thailand	Phimanphittayasan School	Rubber Tongue Launcher
114	Thailand	Triam Udom Suksa School of The South	Token Change The Wold
115	Thailand	Montfort College	Trio Boffin
116	Thailand	Boonwattana	Anchalee
117	Thailand	Montfort College	OJ Trio

No	Country	School Name	Team Name
118	Thailand	Princess Chulabhorn Science High School Pathum Thani	Platinum Tiger
119	Thailand	Princess Chulabhorn Science High School Satun	Powerpuff Girl Thailand
120	Thailand	Boonruangwittayakom School	The AS Ask
121	United Kingdom	Ardingy College and Ifield Community College	Ardingly Ifield Solar

4.2 Judges Training

The YIC 2022 Judging team was led by Chief Judge Mr. Tan Cher Hao and Mr. Faizal Noor Batcha being the Advisor. Judges from various professional backgrounds were recruited to mark YIC's Invention Pitch Video and Project Report. A total of 80 judges agreed to be on board and the Judges Training video was recorded and distributed to the judges prior to the marking.

4.3 The Invention Pitch Video and Project Report Marking

The Invention Pitch Video and Project Report marking was started on the 19 September 2022 and the judges were given 12 days for the marking process. A total of 80 judges, consisting of university lecturers, scientists, environmental consultants, intellectual property experts, etc have marked the Invention Pitch Video and Project Report from all the 121 teams and submitted the results on the 30 September 2022. Subsequently, the judging panel had shortlisted the Top 21 teams to participate in online viva session.

4.4 Announcement of TOP 21 Teams

The Top 21 teams who proceed to the next stage of the competition which is the Online Viva Session were announced via email on the 14 October 2022 and the details are as follows.

No	Country	School Name	Team Name
1	Brunei Darussalam	Sekolah Menengah Berakas	Team Articulate Intellect
2	Brunei Darussalam	Sekolah Menengah Berakas	Team Zenith Mogul
3	Indonesia	SMAN 7 Yogyakarta	Copcus Team
4	Malaysia	SMK Tunku Abdul Rahman	Mastermind Group
5	Malaysia	SMK Luar Bandar No.1 Sibu	SMKLBS
6	Malaysia	SMK Bintulu	Rick Rolled
7	Malaysia	SMK Heng Ee	Figaro
8	Malaysia	SMK ST. Anthony, Sarikei	SAS Titan
9	Malaysia	SMJK Chung Ling Butterworth	LTS Engineering
10	Philippines	PSHS - Caraga Region Campus	CRC
11	Philippines	Roxas National Comprehensive High School	The Robotics Rnchsians
12	Philippines	Recto Memorial National High School	Team Bio-wise
13	Philippines	PSHS - Ilocos Region Campus	PSHS-IRC Team B
14	Philippines	Medina National Comprehensive High School-senior High School	Medina NCHS Aquabrain
15	Philippines	Philippine Science High School - Central Visayas Campus	Team Chemcheck
16	Philippines	San Nicolas National High School	Sukisuknicolas
17	Philippines	Alaminos City National High School	Likha(Automated Drying And Quality Controlling System For Rice Varieties)
18	Thailand	Bungkan School	BK Innovation
19	Thailand	Boonruangwittayakom School	The AS Ask
20	Thailand	Varee Chiang Mai	QC Mangosteen
21	United Kingdom	Ardingy College And Ifield Community College	Ardingly Ifield Solar

Table 5 : List of Top 21 teams

4.5 Online Viva Session

One week before the Online Viva session, all the 21 teams were given a trial run to test their video, audio and connectivity. We also provide them with a guideline and terms and conditions that need to be followed during the online viva session.


The online viva session was conducted on the 29 October 2022 as per the schedule shown in Table 6. The sessions were conducted through Zoom Meet and all the 21 teams participated, presented and answered questions from the judges on the scheduled time. Three - Four panels of judges evaluated each team.

Team	Online Viva Timing	Country	Team Name
Team 1	9.00am to 9.30am	Philippines	Team BIO-Wise
	9.45am to 10.15am	Malaysia	SMKLBS
	10.30am to 11.00am	Malaysia	Mastermind Group
	11.15am to 11.45 am	Philippines	Team Likha
	12.00pm to 12.30pm	Philippines	PSHS IRC Team B
Team 2	9.00am to 9.30am	Philippines	Team Chemcheck
	9.45am to 10.15am	Philippines	Medina NCHS Aquabrain
	10.30am to 11.00am	Malaysia	LTS Engineering
	11.15am to 11.45 am	Malaysia	Rick Rolled SMK Bintulu
	12.00pm to 12.30pm	Brunei Darussalam	Team Articulate Intellect
Team 3	9.00am to 9.30am	Malaysia	SAS Titans
	9.45am to 10.15am	Thailand	BK Innovation
	10.30am to 11.00am	Thailand	The AS Ask
	11.15am to 11.45 am	Malaysia	Figaro SMJK Heng EE
	12.00pm to 12.30pm	Philippines	Sukisuknicolas
Team 4	9.00am to 9.30am	Indonesia	Copcus Team
	9.45am to 10.15am	Philippines	CRC
	10.30am to 11.00am	Philippines	The Robotics Rnchsians
	11.15am to 11.45 am	Brunei Darussalam	Team Zenith Mogul
	12.00pm to 12.30pm	Thailand	QC Mangosteen
Team 5	5.00pm to 5.30pm	United Kingdom	Ardingly Ifield Solar




Table 6: Online Viva Schedule

4.6 Online Viva Pictures

Jendela Audiens - Prediction of Random Stone Magpie Bird Samples (Unidentified) - Google Chrome
about:blank




SELECTION PROCESS FOR THE YOUNG STONE MAGPIE BIRDS

-  The selection process for the young stone magpie birds is very difficult and can only be carried out by certified experts in singing birds field.
-  Only a few good quality young stone magpie birds can be selected properly and the process is quite difficult since it relies on the using of five senses which are qualitative.
-  A quantitative and accurate technique is needed.

ASTI ADMIN
Dr. Lee
Dr. Nuram Saleh
Sheikh Ahmad Iza...
Sheikh Ahmad Izadin

Audience Window - Team BIO-WISE - PPT



BIO-WISE:
BIODEgradable face mask out of Water hyacinth (*Eichhornia crassipes*) and Sugarcane (*Saccharum officinarum*) as an alternative to single-use face mask

TEAM BIO-WISE

Atienza, Sheira
Caraan, Tier

Tier Allen Caraan
Dayalan subramaniam
Sheira Atienza
Jenny Guevarra
Syarifah Nur
NURADILAH ABAS

AUTOMATIC AGRICULTURE SYSTEM (AAS)

SAS TITAN



2022-10-29 09:01:46



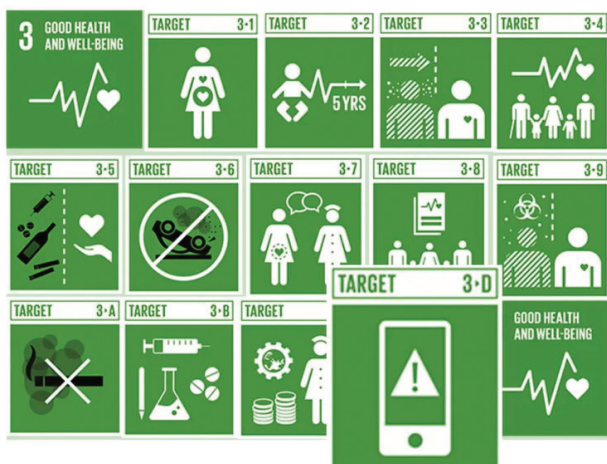
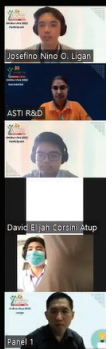
Portable Cyanide Concentration Detection Device using Curcumin-Based Paper Strips

ATUP, DAVID ELIJAH CORSINI C.
LIGAN, JOSEFINO NINO O.
PEPITO, CHESYNE DANIELLE C.

BENITO A. BAJE, ARLENE CAHOY-AGOSTO

REY CAPANPANGAN

PHILIPPINE SCIENCE HIGH SCHOOL CENTRAL VISAYAS CAMPUS



3.D Strengthen the capacity of all countries, in particular developing countries, for early warning, risk reduction and management of national and global health risks


- Nowadays, COVID-19 is one of the diseases widespread across the globe.
- Practicing physical distancing is one of the effective ways to prevent the virus from spreading around.
- Thus our innovation plays the function of controlling the number of peoples in a place to practice of social distance.



LTS engineering


Let's Try Something presents

YIC 2022



09:29 29 Nov


74%



SMART BOX RECEIVE DISINFECT.

Presentation By Team The As Ask

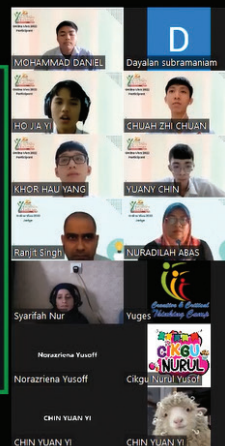
01



THE ROBOTICS RNCHSIANS TEAM







RICK ROLLED ECOVERSE PRESENTATION

Here is where our journey begins



HENG EE HIGH SCHOOL TEAM FIGARO FIRE ESCAPE PLAN PLUS



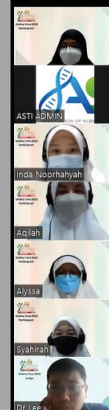
2022-10-29 11:10:27



SEKOLAH MENENGAH BERAKAS
BRUNEI DARUSSALAM

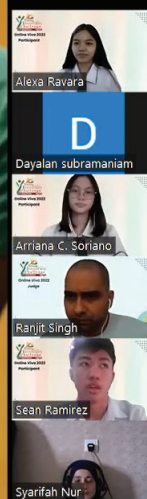
CARE ON THE GO

BY TEAM ZENITH MOGUL
29TH OCTOBER 2022



YOUNG INVENTORS CHALLENGE
SPECIAL EDITION 2022

AUTOMATED DRYING AND QUALITY CONTROLLING SYSTEM FOR RICE VARIETIES TEAM LIKHA PH



SUKISUKNICOLAS:
Expanding horizons for a brighter tomorrow



Foodwaste in making

BIOGAS

for sustainable

Cooking



2022-10-29 11:53:59



SEKOLAH MENENGAH BERAKAS
BRUNEI DARUSSALAM

3PLE-T (TABLE TENNIS TRAINER)

BY TEAM ARTICULATE INTELLECT
29TH OCTOBER 2022



YOUNG INVENTORS CHALLENGE
SPECIAL EDITION 2022



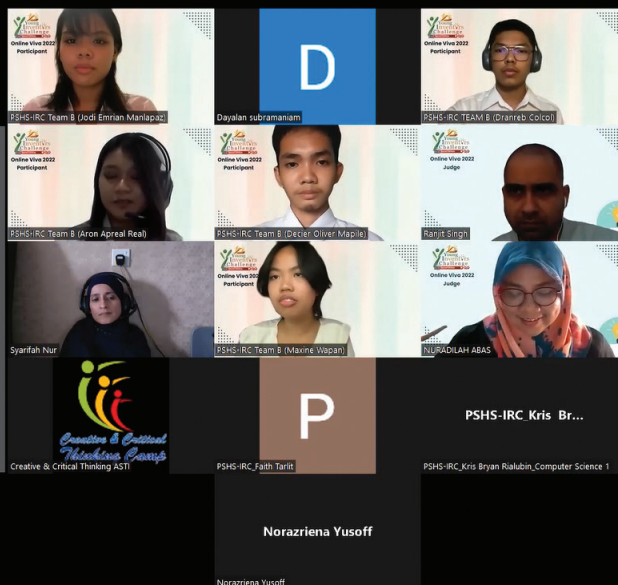
COMMUNITREE

A Philippine Platform for Community-Driven Reforestation

PSHS-IRC TEAM B

SDG 13: Climate Action
SDG 15: Life on Land

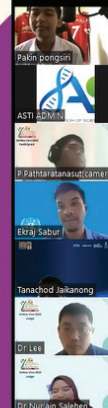
Members:
Dranreb Jes G. Colcol
Jodi Emrian Salvacion B. Manlapaz
Decier Oliver R. Mapile
Aron Apreal R. Real
Maxine Ruth A. Wapan



Mangosteen Classify Using Image Processing Technique



x



History of the Solar Movement

Roadster



Basking Beastie



Bridgestone World Solar Challenge



4.7 Announcement of the Winners

The Young Inventors Challenge 2022 Special Edition Winners were announced on the 17 November 2022 at 5pm through YouTube Live Session.



Organizer:



Funding Partners:





YIC Virtual Winner Announcement Ceremony



Association of Science, T...
2.36K subscribers

Analytics

Edit video

14

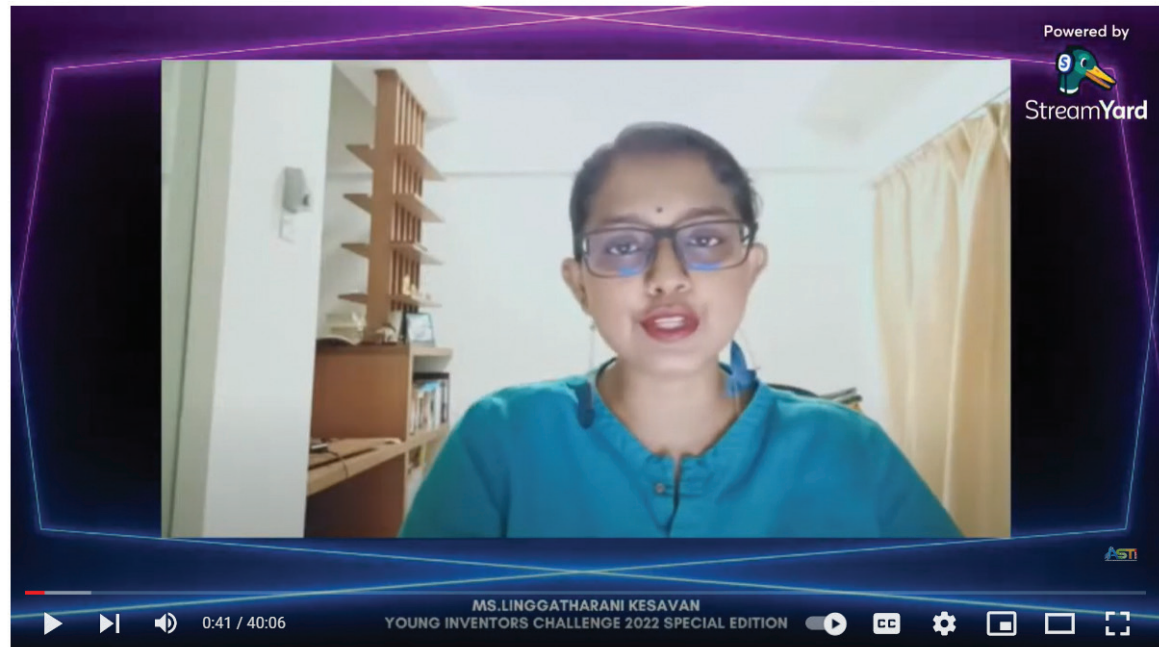


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The YouTube Live Session started with welcoming note and background information sharing by the Moderator Ms. Linggatharani Kesavan.



YIC Virtual Winner Announcement Ceremony



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Mr. Anandan Shanmugam gave the opening remark before announcing the winners. In his speech, he mentioned that this should not be the end, and the students should continue this journey. He also added that in protecting the safety and well-being of all national and international participants, ASTI has announced YIC 2022 SPECIAL EDITION, that was conducted through the submission of video-based inventions and a report. This was all done online. Finally, he congratulated all the teams who have participated in YIC 2022 Special Edition.



YIC Virtual Winner Announcement Ceremony



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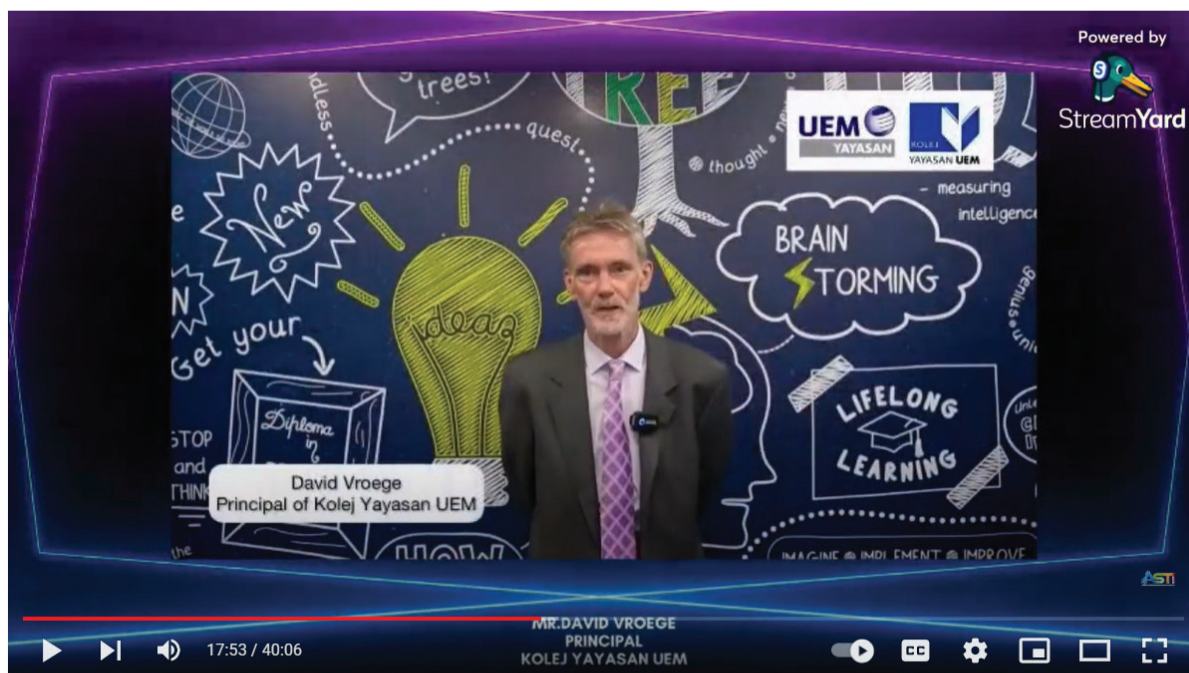
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The Virtual Winners Announcement Ceremony was graced by Ms. Florence Tan, Chair of the Small Spacecraft Coordination Group (SSCG) at NASA Headquarters and Deputy Chief Technologist (DCT) for NASA's Science Mission Directorate (SMD). Ms. Florence Tan mentioned that ***"We at NASA hoping for you, the young inventors and the inheritors of Earth, to see things differently and innovate and build a better world"***. The speech was very motivational and inspirational.



YIC Virtual Winner Announcement Ceremony



Association of Science, T...
2.36K subscribers

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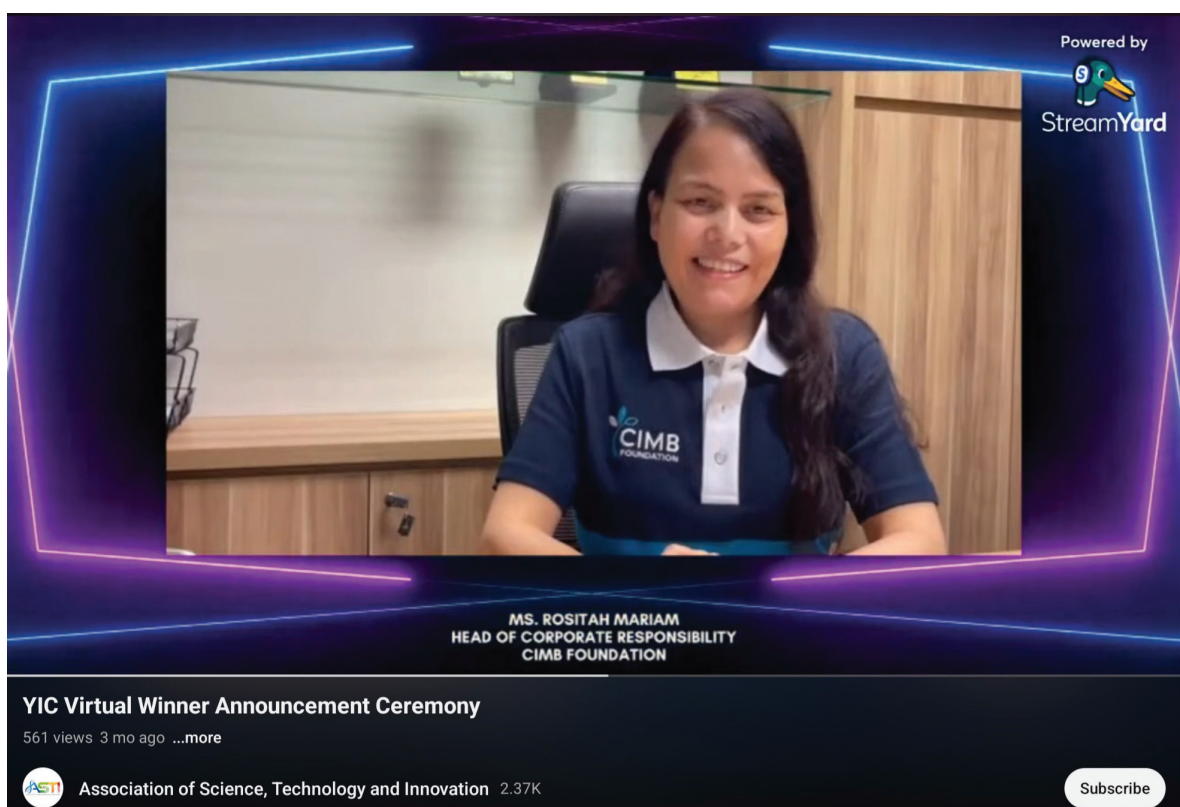
Edit video

14



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The Virtual Winners Announcement live session was continued with video wishes from some of our funders. This year's Young Inventors Challenge would not be possible without the support from our honourable funders. The YIC 2022 Special Edition was funded by CIMB Foundation, Kolej Yayasan UEM, Tenaga Nasional Berhad and Yayasan Hasanah.



YIC Virtual Winner Announcement Ceremony



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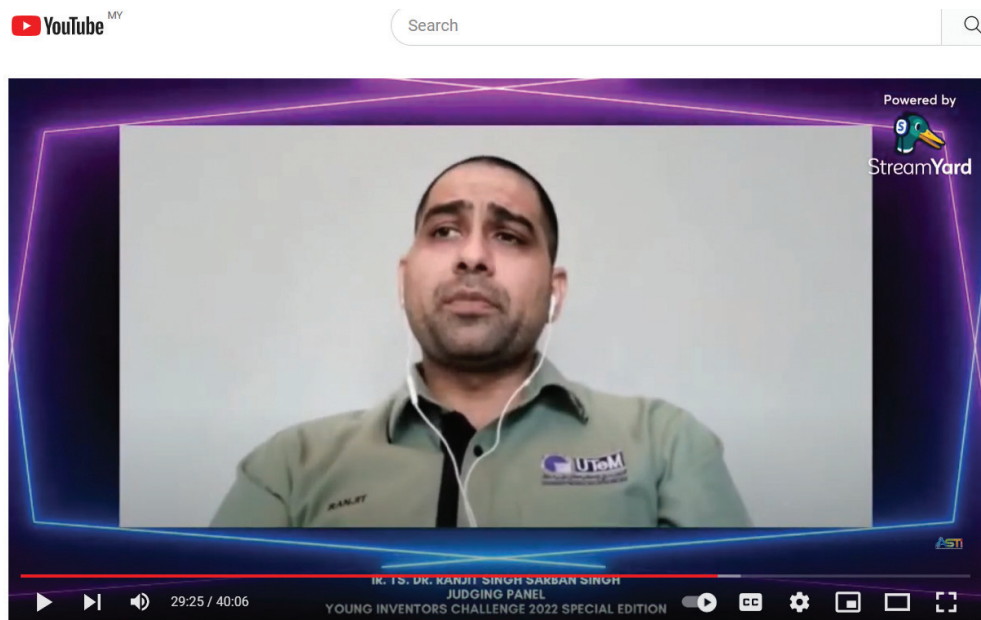
14



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YIC Virtual Winner Announcement Ceremony

ASTI Association of Science, Technology and Innovation (ASTI) 2.36K subscribers

The YouTube event was followed by the judging feedback and remarks by Mr. Tan Cher Hao, Chief Judge, Mr. Faizal Noor Batcha, Judging Advisor and Ts. Ir. Ts. Dr. Ranjit Singh Sarban Singh, Judging Panel Head of YIC 2022. Mr. Tan Cher Hao mentioned that the judges had a hard time judging the participants because of so many good inventions. Mr. Faizal Noor Batcha added that the judgment was focused on creativity, innovation, competence in presentation and safety measures.



YIC Virtual Winner Announcement Ceremony

ASTI Association of Science, Technology and Innovation (ASTI) 2.36K subscribers

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. Dr. Yunus also expressed his gratitude and appreciation to the funders who made this event possible. He also thanked everyone who involved in YIC 2022 special edition in making the event a great success.

The Virtual Winners Announcement Ceremony continues with the presentation of awards to the winners. The Platinum Award, Gold Award, Silver Award, and Bronze Award winners were announced through a multimedia presentation. The details of the winning teams are shown as table 7 below:

Awards	Country	School Name	Team Name
Platinum	Philippines	Philippine Science High School - Central Visayas Campus	Chemcheck
Gold	Philippines	Philippine Science High School - Caraga Region Campus	CRC
Gold	Thailand	Varee Chiang Mai	QC Mangosteen
Silver	Thailand	Boonruang Wittayakom School	The AS Ask
Silver	Malaysia	SMK Bintulu, Sarawak	Rick Rolled
Silver	Malaysia	SMK St. Anthony, Sarawak	SAS Titans
Silver	Thailand	Bungkan School	BK Innovation
Silver	United Kingdom	Ardingy College And Ifield Community College	Ardingly Ifield Solar
Silver	Brunei Darussalam	Sekolah Menengah Berakas	Articulate Intellect
Silver	Brunei Darussalam	Sekolah Menengah Berakas	Zenith Mogul
Bronze	Indonesia	SMAN 7 Yogyakarta	Copcus
Bronze	Malaysia	SMK Heng Ee, Penang	Figaro
Bronze	Malaysia	SMJK Chung Ling Butterworth, Penang	LTS Engineering
Bronze	Malaysia	SMK Luar Bandar No.1 Sibu, Sarawak	SMK LBS
Bronze	Malaysia	SMK Tunku Abdul Rahman, Penang	Mastermind Group
Bronze	Philippines	San Nicolas National High School	Sukisuknocolas
Bronze	Philippines	Roxas National Comprehensive High School	The Robotics Rnchsians
Bronze	Philippines	Medina National Comprehensive High School - Senior High School	Medina NCHS Aquabrain
Bronze	Philippines	Recto Memorial National High School	Bio-Wise
Bronze	Philippines	Alaminos City National High School	Likha(Automated Drying and Quality Controlling System For Rice Varieties)
Bronze	Philippines	PSHS Ilocos Region Campus	PSHS - IRC Team B

Table 7 : Winner's List

5.0 FUNDING AND BUDGET

Funding

Young Inventors Challenge 2022 Special Edition was funded and supported by CIMB Foundation, Kolej Yayasan UEM, Tenaga Nasional Berhad and Yayasan Hasanah. These funding organisations are the backbones of the success and achievement of YIC 2022. The funds pledged and disbursed by are shown in Table 8.

No	Funders/Sponsors	2022 (RM)
1	CIMB Foundation	70,000.00
2	Kolej Yayasan UEM	25,000.00
3	Yayasan Hasanah	25,000.00
4	Tenaga Nasional Berhad	10,000.00
	TOTAL	130,000.00

Table 8 : YIC 2022 Funding

Account Statement of YIC 2022

Income and Expenses Statement for the Project Period Ended 31 December 2022

Income	2022 (RM)
CIMB Foundation	70,000.00
Kolej Yayasan UEM	25,000.00
Yayasan Hasanah	25,000.00
Tenaga Nasional Berhad	10,000.00
TOTAL INCOME	130,000.00
Less: Expenditure	
Module Development, IP generation and Internal licenses	15,000.00
Flyers and Cover letter Designing and Printing	1,000.00
Promotion (Postage, Multimedia, Webpage)	5,000.00
Evaluation & Research	1,000.00
Prizes & Souvenirs	20,000.00
Judging Process and Procedures	5,000.00
Designing	1,100.00
Promotion and Printing	5,000.00
Travel and Transportation	1000.00
Project Utilities and Stationaries	12,000.00
Virtual Winners Announcement Ceremony	5,000.00
YIC Alumni Initiative	10,600.00
Project Manager Salary and Benefits	21,200.00
Project Officer Salary and Benefits	34,200.00
TOTAL EXPENDITURE	137,100.00
Excess of (Expenditure)/Income*	(7,100.00)

*The excess of expenditure was underwritten by Association of Science, Technology and Innovation (ASTI)

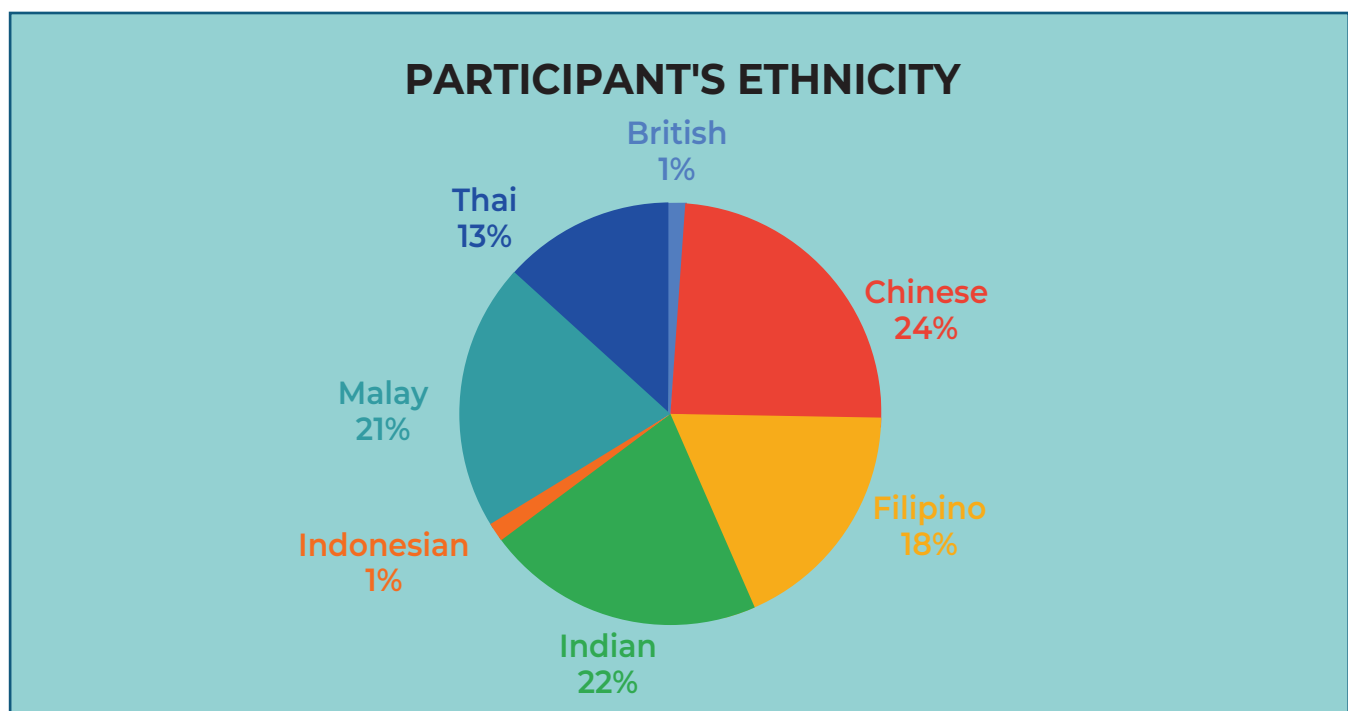
6.0 SURVEY ANALYSIS

Participant's Survey Analysis

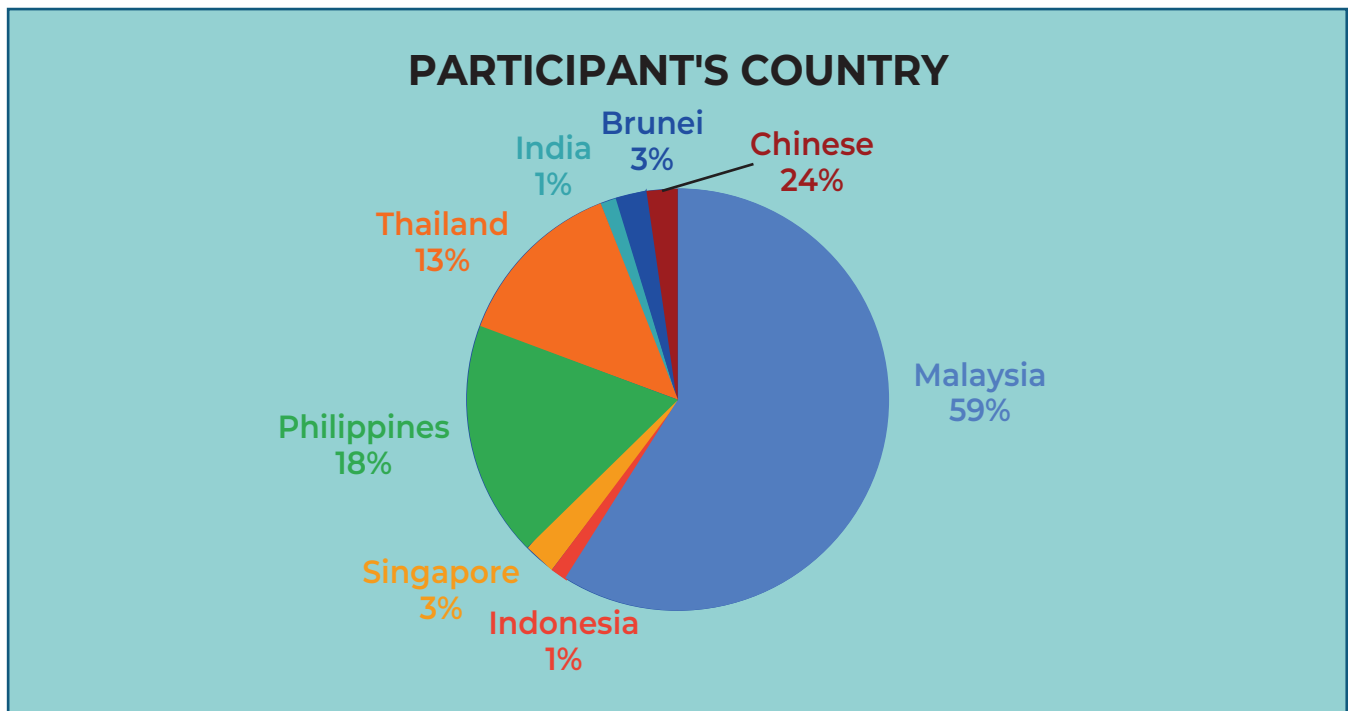
The participant's survey was conducted through a google form. The google link survey form was distributed to the participants via email and WhatsApp messages. A total of 83 participants have completed the survey. The analysis of survey is summarised as below.



Graph 1 : Gender of Participants



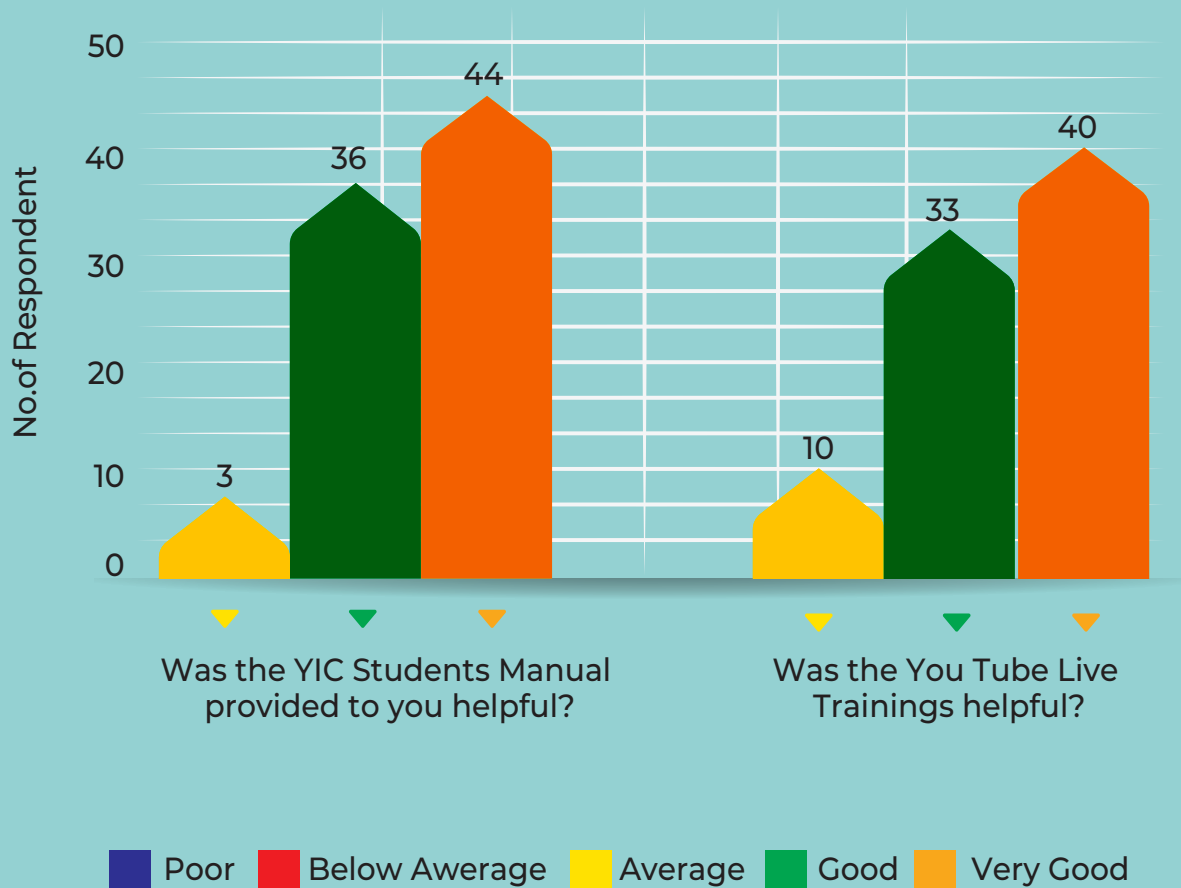
Graph 2 : Ethnicity of Participants



Graph 3 : Countries of Participants

Graph 1, 2 and 3 shows the participants' gender, ethnicity and countries respectively. As can be seen from graph 1, the distribution of female and male participants is almost equal with only 1 percentage difference. Furthermore, students of Malay, Chinese and Indian ethnicity mark almost the similar percentage from 21% to 24 % (Graph 2). Meanwhile Filipino and Thai shows 18% and 13% respectively. On the other hand, graph 3 shows the countries representation and the highest percentage was from Malaysia with 59 teams out of 121 teams that participated in the final competition.

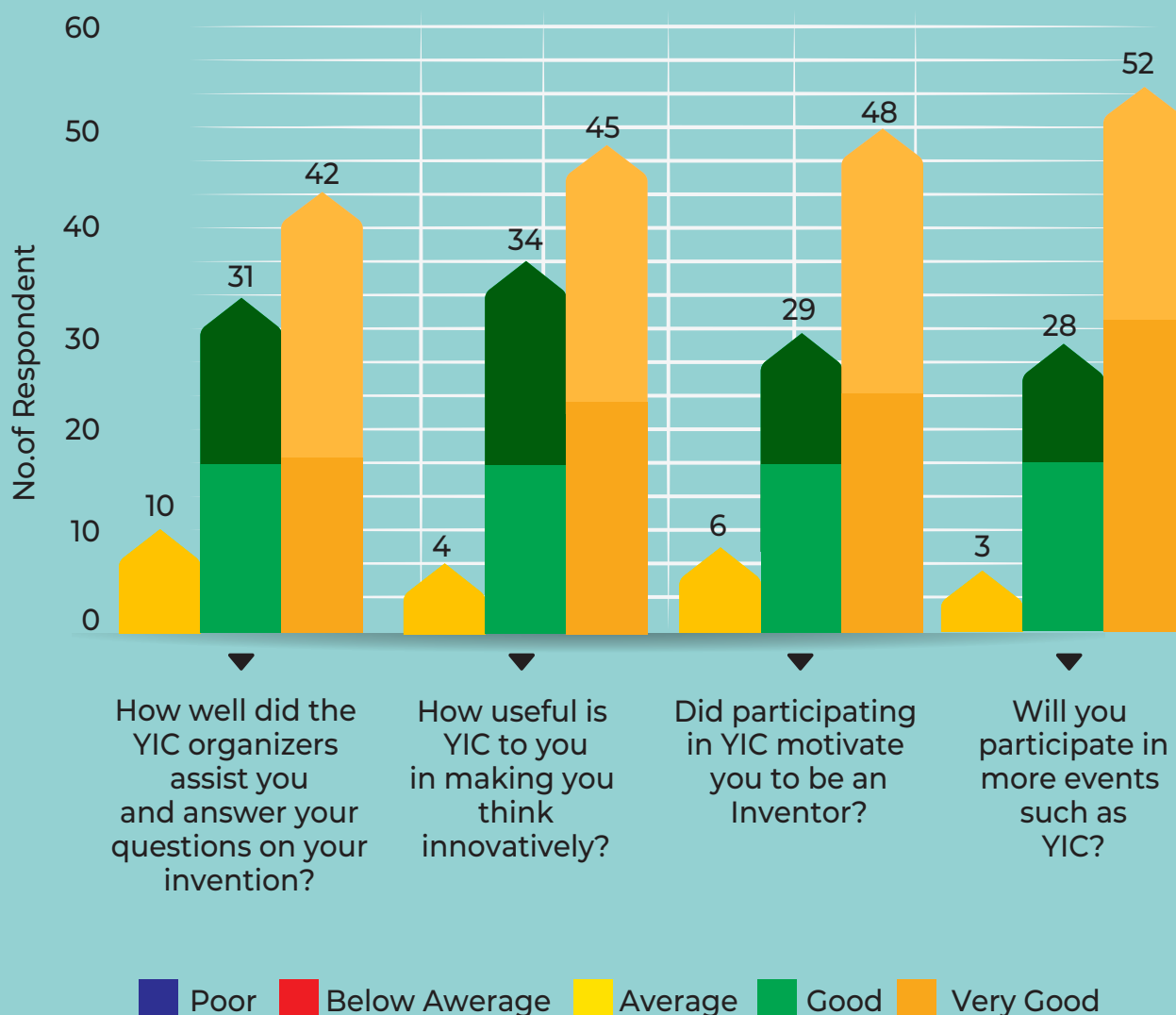
Participant's Satisfaction Level on Students' Manual and Online Training Provided



Graph 4: Participant's Satisfaction Level on Students' Manual and Online Training Provided

The feedback obtained from students' opinion on the helpfulness of the students' manual and satisfaction on YouTube Live Training was presented in graph 4. As can be seen from graph 4, almost 96% of the students rated good and above for helpfulness of students' manual. Meanwhile a total of 73 respondents rated good and very good for the helpfulness of YouTube Live training. From this analysis we can conclude that YIC students' manual and YIC online trainings have served its purpose to guide and provide students with information. There were 4 online training and 2 questions and answer session was conducted this year and the student's participation was engaging. The students also have acquired vast knowledge through the YouTube Live Training.

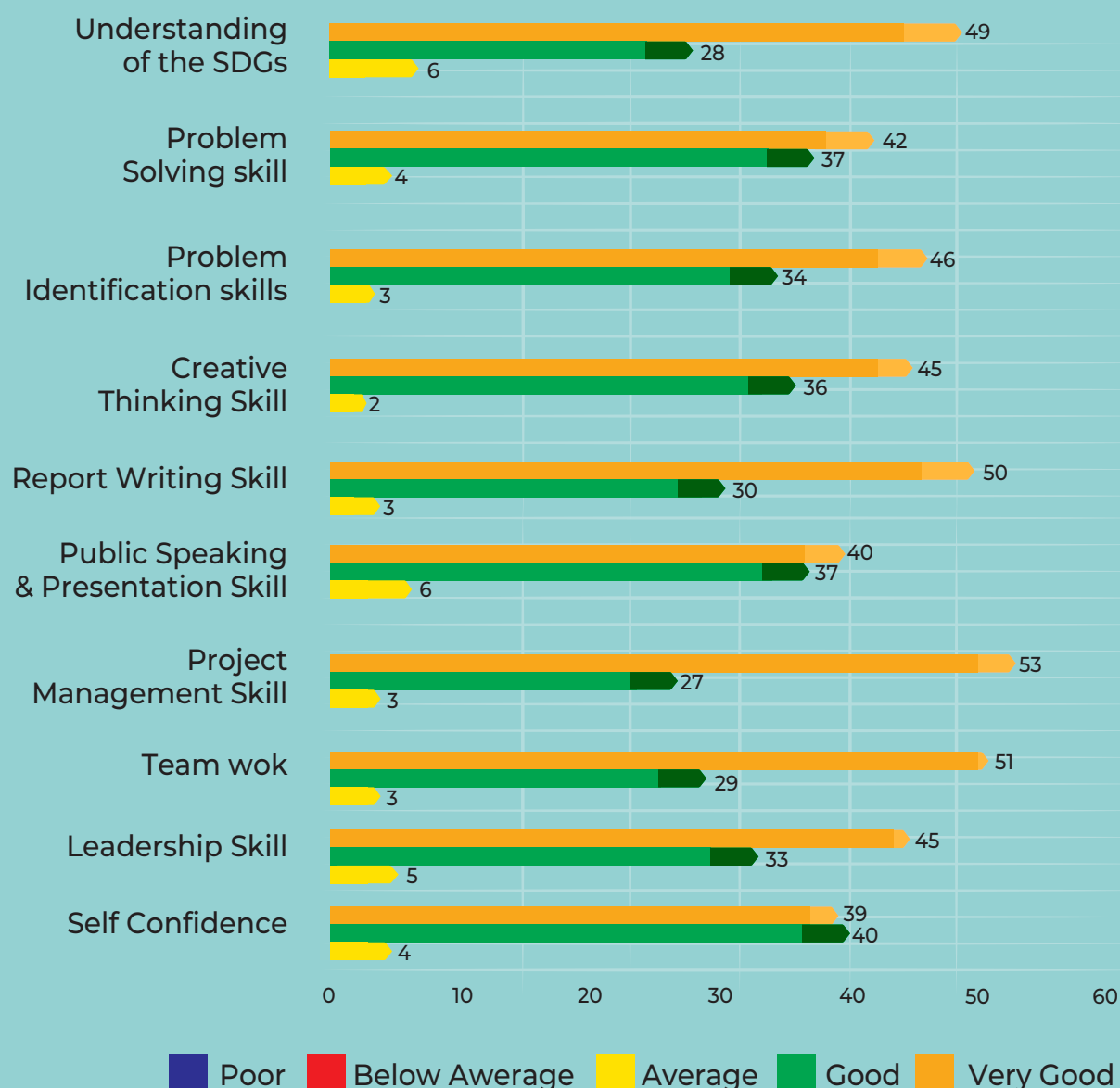
Participants' Opinion on Invention Process



Graph 5: Participants' Opinion on Inventions Process

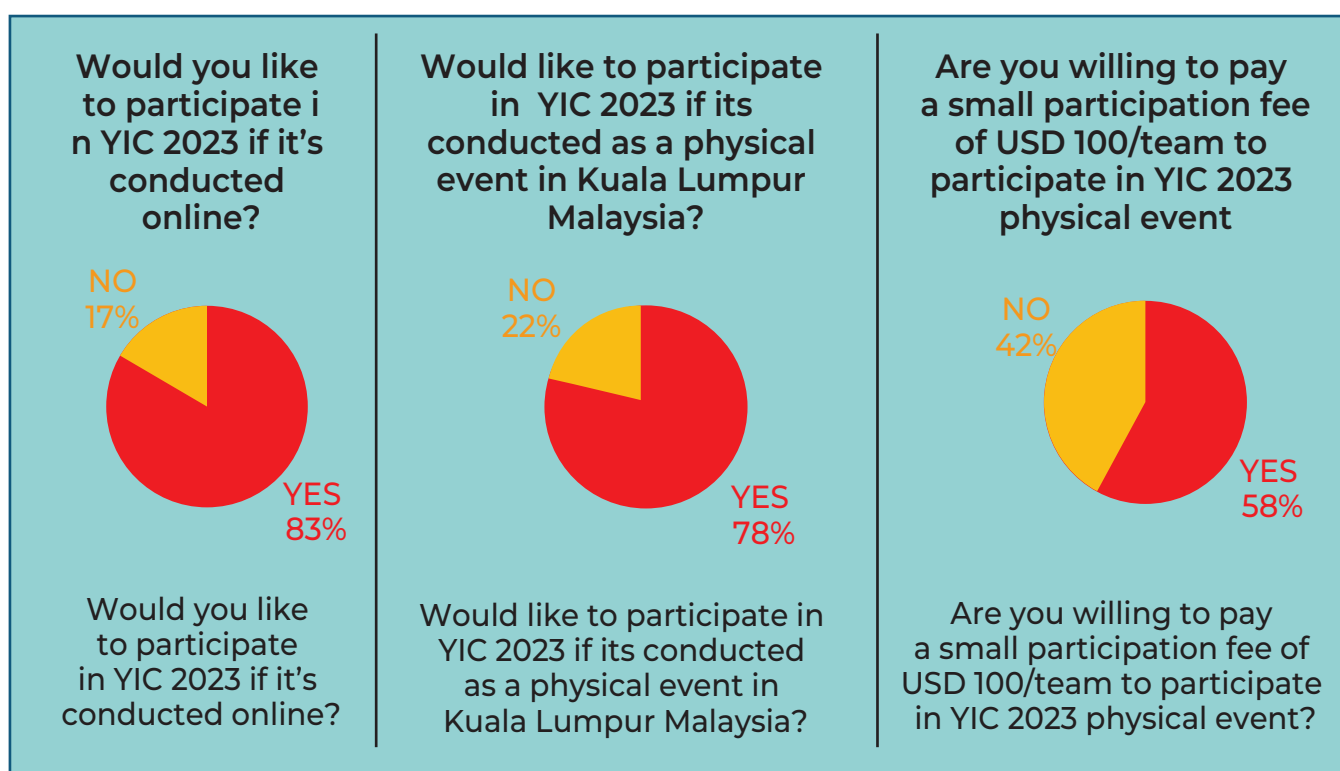
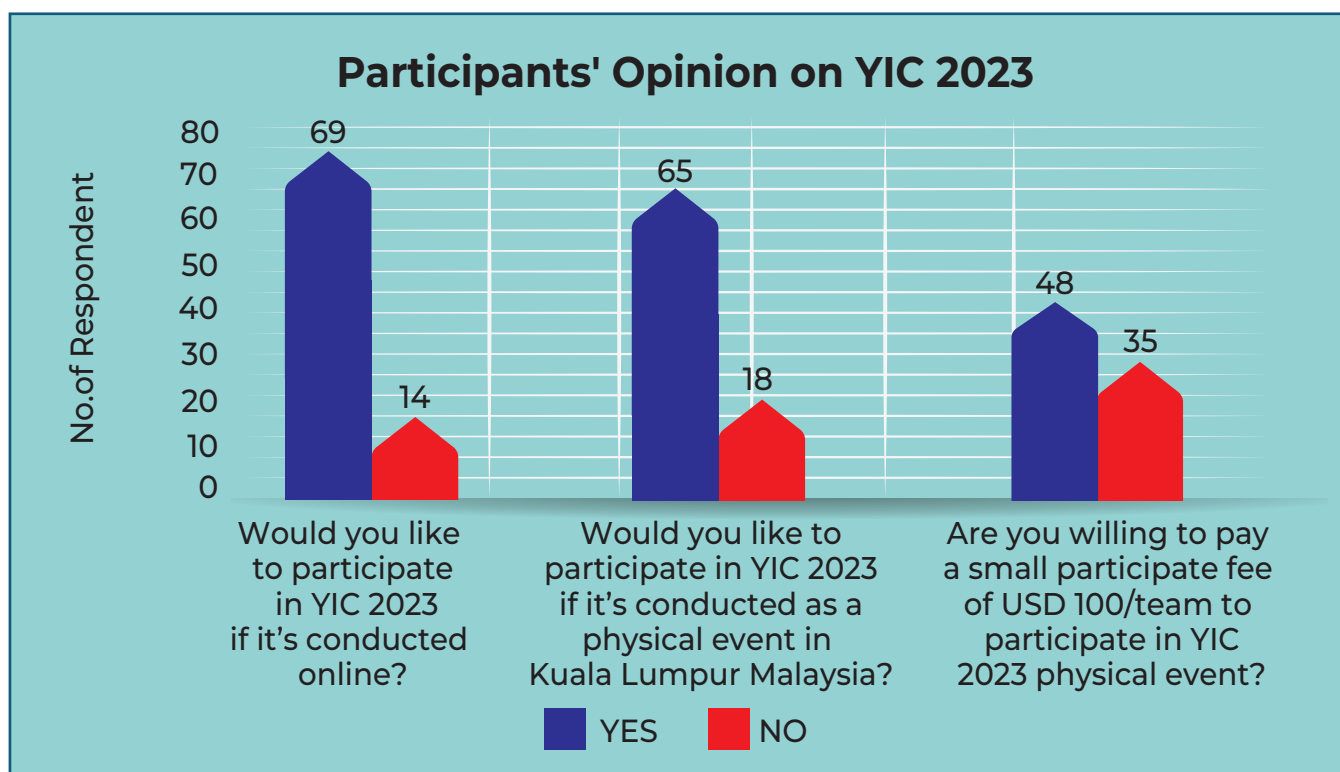
Students were also requested to rate the assistance provided by the organizers and how well the organizers answered their questions on inventions. Based on the survey conducted, 88 % and above have rated good and very good which indicates participants were satisfied and happy with the assistance and continuous guidance provided by the organisers in a timely manner. Besides, the result also indicates that the students believe that YIC actually made them to think innovatively during the process of developing the inventions/innovations. Graph 5 also indicates that YIC has effectively incorporated the motivating dimension to learners, as 92% of participants responded positively. Furthermore, 96 % of students are interested in taking part in more events, such as YIC as can be seen in graph 5.

HOW MUCH DID YIC HELP YOU GAIN THE FOLLOWING SKILLS?



Graph 6: How Much Did YIC Helped Students Gain the following Qualities

The result of analysis shown in graph 6 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 skills, Problem identification skills, problem-solving skills and understanding of SDGs. Almost 90% of students rated good and very good for all the aspects, and only less than 6 students rated average for all 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 have made students to be qualified and thriving in the YIC 2022 Final Competition.



Graph 7: Participants' Opinion on YIC 2023

Graph 7 explains the student's opinion on their participation in YIC 2023. Students were asked if they would like to take part in the YIC 2023 if it's conducted online and 83% responded "YES". Meanwhile the same students were asked if they are interested to take part in YIC 2023 physical event in Kuala Lumpur and 78% of them responded "YES". This indicates that, the participants prefer both Online and Physical event for YIC 2023. When asked about willingness to pay small participation fee of USD 100 per team to participate in physical event, 58% said "YES" whereas 42% said "NO".

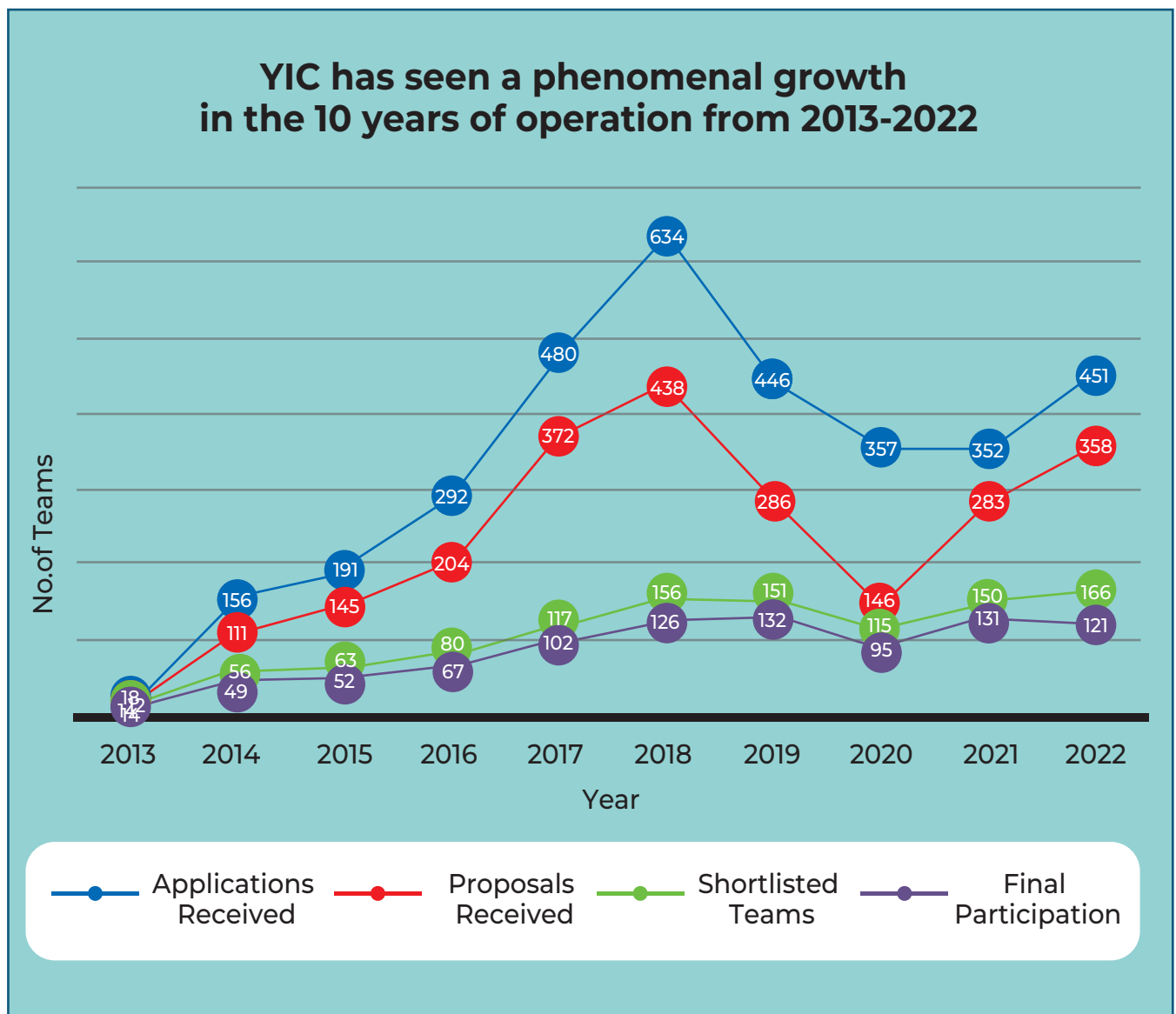
We also have asked the participants few open-ended questions and their response as per the table below:

No	Questions	Responses
1	ANY OTHER SUPPORT OR ASSISTANCE FROM US THAT WOULD ENABLE YOU TO BE EVEN MORE EFFECTIVE IN YIC 2023?	<ol style="list-style-type: none"> 1. Show a report template 2. Provide online courses in variety of fields such as electronics, software development, mechanical, 3d design, architectural. The courses don't have to be live courses. Instead, a video bundle may be provided. 3. More courses on preparing reports and making the video presentation. 4. Conducting consultation sessions to inspect proposed idea for novelty, and 5. Share judges' comments to participants (or create a "Share to Participant" section in the judging form) so as to help improve project idea in future 6. More category awards 7. We believe that financial assistance is a big help, it encourage us to continue and won't worry too much for the expenses. It helps us to focus and spend more time in doing our invention or innovation. Moral support really matters as well, its a big help for our mental health and it will encourage more teenagers to participate and work more effectively.
2	SUGGEST WAYS TO CREATE AWARENESS /PARTICIPATION AMONG YOUR PEERS.	<ol style="list-style-type: none"> 1. Spread the news through social medias on importance of competition 2. Promote the idea that real world problem solving is the ultimate benefit of STEM (meaning not just the grades / marks obtained in exams). 3. Promote the benefits of creating something innovative or inventive 4. Appoint innovation icon amount youth 5. More award to the participants 6. Conducting online symposiums and having promotional videos would be a good idea to encourage peers to participate and make them be inspired with the previous innovations conducted. With these, they would be encouraged to join and try it for themselves to be innovative and create something for the betterment of our society.

3	WHAT WERE YOUR BIGGEST CHALLENGE DOING YIC ONLINE?	<ol style="list-style-type: none"> 1. Team's cooperativeness 2. Finding time to meet up physically to make the prototype and record the video 3. Ensuring the solution to our problem is as novel and innovative as possible. 4. Time duration to continuously improve towards getting the best version of the pitching video. 5. Limited budget and limited experience 6. Time constraints 7. Building the prototype. This is the most challenging one since it needs to be fully sketch and we need to seek some skilled person to build our desired product 8. The biggest challenge that we encounter during the YIC competition is lack of financial support or financial problem, our time , connection and mental health are the biggest problems that we encounter. Since its online, we did it our own, we tried our best in doing what we can do and during our innovating process, but because of the online training provided by the YIC organization and the guidance of our mentor we found ways to make it possible, to make a working prototype and to encounter all the challenges. 9. Poor internet connection in our area.
4	WHAT DID YOU LEARN THE MOST IN PARTICIPATING IN YIC?	<ol style="list-style-type: none"> 1. Make research proposal and its presentation 2. Working under a lot of pressure 3. Identifying problems and coming up with ideas to solve them 4. Teamwork 5. Solving real world problems by innovating existing technologies and solutions. 6. Focus and leadership 7. How to work within limitations to achieve success 8. To think innovatively and creatively while thinking outside of the box 9. Learned about SDG'S and our world's problem

10. I learned that being innovative contributes a lot in the society. YIC event is a golden ticket for us to discover and develop new ideas that target different SDGs. Also, having teamwork and innovative thinking within the team was developed throughout this event especially during the proposal and concept making, design making and constructing the innovation itself.
11. We learned about teamwork, Team TEMAECO learned that teamwork really works. Despite every challenges that we encounter individually we were able to make it together and that's the best feeling and the best lesson we've learned. Aside from that we have learned a lot about inventing and innovating, we learned something that not everyone has given the chance to learn , and we also learned and discover from ourselves that we can do more, we are not just a normal teenagers but we can do something to solve the common problems our country is facing, and we learned that research is not temporary, because research is life.
12. Being resourceful, patience, innovative and extend hard work

7.0 ACHIEVEMENT OF THE PROJECT



Graph 8: Comparison of Participation from YIC 2013-2022

Graph 8 shows the growth of YIC since 2013. As can be seen in graph, there is an increase in the number of applications received between 2013 to 2018 and a slight decrease in 2019. These decreases caused by the participation fee of RM 400 per team that was charged for the first time due to financial constraints. In 2020 & 2021, the number of application received was further decreased due to Covid-19 pandemic. This year we have seen a slight increase in the number of applications received. The line chart also shows an increase in proposal received and shortlisted teams for the year 2022 as the participant gets familiar with Online Events and Competitions. This proves that schools and students are very interested in participating in the Online Young Inventors Challenge.

Table 9 shows the breakdown of YIC finale participation by country.

	YIC 2013	YIC 2014	YIC 2015	YIC 2016	YIC 2017	YIC 2018	YIC 2019	YIC 2020	YIC 2021	YIC 2022
Malaysia	12	49	51	58	81	79	67	55	74	59
Singapore	0	0	1	0	1	1	2	2	2	6
Philippines	0	0	0	9	4	14	25	9	25	30
Thailand	0	0	0	0	14	24	14	21	25	19
Indonesia	0	0	0	0	24	7	3	3	2	2
China	0	0	0	0	7	1	3	0	0	0
Brunei Darussalam	0	0	0	0	1	0	1	1	2	3
Vietnam	0	0	0	0	0	0	16	0	0	0
Timor Leste	0	0	0	0	0	0	1	0	1	0
India	0	0	0	0	0	0	0	4	0	1
United Kingdom	0	0	0	0	0	0	0	0	0	1
	12	49	52	67	102	126	132	95	131	121

Table 9: YIC Final Competition Participation 2013 -2022

Table 9 shows the participation by country for YIC from 2013 to 2022. As the year progresses, we have managed to reach out to more countries, and this year we received new participation from United Kingdom. YIC 2022 remarks the 3rd highest participation in YIC history. The student's participation and invention ideas are overwhelming and outstanding. In the coming years, we hope to open up YIC to even more countries.

8.0 RECOMMENDATIONS FOR THE FUTURE

YIC Working Group Committee Swot Analysis and Recommendations

Strength

- ★ Successfully completed 10th year consecutively
- ★ The theme “Sustainable Development Goals (SDGs)” received well by all participants
- ★ Experienced Project Director, Chief Judge and organizing committee
- ★ Improved online Viva Judging Methodology in terms of more involvement from judges
- ★ Continuous international participation
- ★ Cost savings from online training, travelling
- ★ Effective YouTube live training with more views
- ★ Good coordination and communications among committee member for overall YIC programme through online meeting
- ★ Flexibility and agility in organizing and managing the event
- ★ More robust judging process
- ★ Good motivators with involvement from NASA Students learned Presentation and Communication Skills
- ★ New participation from UK teams
- ★ Continuous support from existing funders

Weakness

- ★ Language barrier for participants especially from Thailand
- ★ Online barriers for rural schools
- ★ Not able to see and test the working prototype physically
- ★ Not able to meet each other (Networking and learning from each other)
- ★ Unable to do mentor session with the teacher
- ★ Viva session is only for the selected teams
- ★ The virtual prize giving ceremony lack of physical euphoria
- ★ Online implementation issues (reduced contact time with the participants)
- ★ Coordination of time difference from country of different time zone

Threat

- ★ Possible decrease in funding due to economic slowdown
- ★ Publicity to press especially online events
- ★ Many online competitions
- ★ Many organisations copying the YIC model
- ★ Significant increase cost of travel
- ★ Changes of school terms

Opportunity

- ★ More international participation
- ★ More international partners/funders
- ★ Online engagement improves students 21st century skills
- ★ Engagement with industry partners
- ★ Increase awareness on entrepreneurship among the participants
- ★ Possibility on product patent and commercialization

Recommendations

- ★ Reach out to schools in more Asia Countries
- ★ Encourage new invention and innovation
- ★ Identify ways to encourage participation from rural, indigenous, refugees etc. communities
- ★ Look for more sponsors and local industrial partners
- ★ More publicity
- ★ Match making participants with various inventions industries
- ★ Encourage participation from schools outside of Asia
- ★ Increase publicity via social media live interviews
- ★ Trademark YIC Logo

9.0 CONCLUSION

In conclusion, YIC 2022 Special edition 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, Indonesia, Brunei Darussalam, United Kingdom and India. Furthermore, several schools from countries like Philippines, Thailand, Singapore, and Indonesia have been participating continuously in YIC since 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 express our sincere appreciation and gratitude to all the participants, mentors, headmasters, headmistress, judges, volunteers, supporters, and well-wishers who shows continuous support to YIC 2022. We also would like thank all those who contributed directly or indirectly in one way or another in making Young Inventors Challenge 2022 a huge success.



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