

PETROSAINS RBTX CHALLENGE 2023



RULES AND REGULATIONS



INNOVATION Junior 7 - 12 years old

It is recommended that you review the general terms and conditions prior to reading the rules for a specific category, as the general terms and conditions apply to all categories throughout the entire competition.

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1. INTRODUCTION

The Petrosains RBTX Challenge is a programme where all robotic enthusiasts gather to learn, discover, and battle their robotic creations on a common platform. Aligned with PETRONAS' statement of purpose to be a progressive energy and solutions partner, enriching lives for a sustainable future, the main theme for Petrosains RBTX Challenge 2023 is **Sustainability**. This means that the competition will focus on encouraging participants to develop projects that adopt sustainable practices, contribute to a more sustainable future and have a positive impact on the world.

The Innovation Junior category aligns with SDG 12, which focuses on responsible consumption and production. Innovators aged 7-12 years old are tasked to generate innovative ideas and solutions to build a prototype using Microcontroller, and showcase and pitch their ideas and creations.

2. TEAM COMPOSITION

- Each team must comprise of a maximum of **four (4) participants** and **one (1) mentor** who can be either a teacher or guardian.
- The age group for **Innovation Junior Category** is students between **7 to 12 years old**.
- This year, **Innovation Junior Category** is open to all students residing in Malaysia.

3. INNOVATION CATEGORY MECHANISM

The competition is divided into **Seven (7) phases** as per the following:

Phase 1: Registration

- Participants are required to register online via RBTX Portal.
- Upon registration, participants will be granted full access to the portal to complete online learning modules and download certificate.

Phase 2: Basecamp

- This Online Basecamp is a self-paced online video learning enrichment for participants and shall provide an overall idea of the Petrosains RBTX Challenge 2023 Innovation Junior competition structure, the designated challenge, as well as related learning modules such as Introduction to Microcontroller and its tools.
- Participants are required to take the assessment in the RBTX Portal to proceed to the next level. Passing mark is 80%.
- After the registration closing date, participants are compulsory to attend a **live online briefing session**. This session is to share on overall competition structure and mechanism.

Phase 3: Proposal and Video Submission

Participants are to submit the following:

- a. **Innovation Project Proposal:** Please refer to the attachments below. The proposal must be in ppt. format. The ppt. template can be obtained via RBTX Portal.
- b. **Pitching Video:** The video must be a maximum of two minutes in duration and in MP4 format. It is also compulsory for all participants to appear in the video. Videos can be uploaded on you tube, set as unlisted and remain until the end of the competition.
- c. Submission is through RBTX Portal.
The video link can be either a YouTube or a Google Drive link.

Phase 4: Selection Phase

- The Petrosains RBTX Challenge judging committee will review the submission of complete innovation project proposals and pitching videos. This shall be finalized and announced via Petrosains' official website. Judges' review will be based strictly on the rubric shared during the Basecamp.
- The decision of the competition judges in determining the finalists for this competition shall be final and no appeals against the decision will be entertained.

Phase 5: Bootcamp for Finalists

- Finalists are required to attend an online Bootcamp session as part of learning experience enrichment and competition requirement. This is inclusive of technical mentoring by both subject matter experts from academia and PETRONAS.
- Participants are expected to develop a prototype for the Bootcamp and there will be mock presentation sessions that will be guided by the technical advisors.

Phase 6: Mentoring for Finalists

- The Mentoring phase will include a coaching session to equip finalists with relevant communication skills and familiarity towards stakeholder management.
- Each group will be given an hour online session through Microsoft Teams that will be updated after the Bootcamp.

Phase 7: Grand Finals

- The teams are required to present their project creation at the Petrosains RBTX Challenge 2023 Grand Finals.
- Judges consisting of experts from academia and industry will evaluate the team's presentation according to the rubric shared during the Virtual Basecamp.
- The presentation schedule and mechanism shall be shared with the finalists during the Mentoring session.

4. JUDGING CRITERIA

- The judge rubrics emphasize on Smart Solutions & Functionality, Impact & Sustainability and Communication. Detailed rubrics will be shared during the Basecamp.
- For Grand Finals, the finalist will have a different rubric which then will only be shared during Bootcamp.

Criteria	Details
Problem Statement	Clear problem statement and well mapped under categories in the theme
Proposed Solution	The proposed solution is highly feasible to solve problem, and technology requirements is extensively included to develop the proposed solution
Commercial Value	The prototype/idea has very strong potential to be adopted, enhanced, and leveraged by PETRONAS or other relevant organizations. Commercially viable and has market potential. And the solution is very cost effective compared to other similar solutions even after it is being scaled up.
Video Quality	Audio, video is very clear. Very Creative storyline, very clear wording, and figure/images

5. THEME

Participants are required to tailor their innovation projects to the following United Nations Sustainable Development Goals in creating a comprehensive innovative project that can contribute to a better and more sustainable future for all.

Junior Category: SDG 12

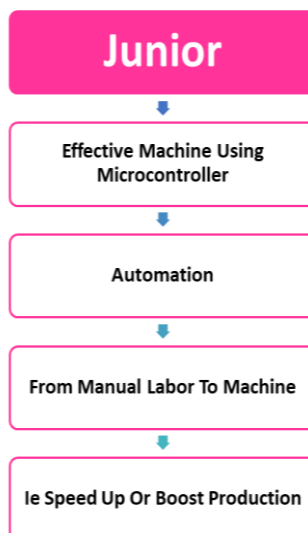


Link to United Nation Sustainable Development Goals:- [Measuring progress towards the Sustainable Development Goals - SDG Tracker \(sdg-tracker.org\)](https://sdg-tracker.org/)

6. PROJECT REQUIREMENT

The proposed solutions must align with the above-mentioned themes.

Junior Category: The solution must be in the form of a product based on digital technology which consists of a microprocessor (microcontroller) that must be programmed.



7. IMPORTANT DATES

Date	Events
18 May 2023	RBTX 2023 – Registration Open
31 July 2023	RBTX 2023 – Registration Closed
18 May – 20 August 2023	Basecamp – Self Learning @RBTX Portal
5 August 2023	Briefing [Online]
20 August 2023	Proposal & Video Submission Closed
18 September 2023	Finalists Announcement
23 September 2023	Bootcamp for Finalists [Online]
4 & 5 October 2023	Mentoring for Finalists [Online]
26 October 2023	Petrosains RBTX Challenge 2023 – Grand Finals @ KL Convention Center

** All dates are subject to change. Kindly refer to the website for the latest updates

8. CERTIFICATIONS

- Participants will be given certificates upon completion of Basecamp (Phase 2), complete submission of the Innovation Project Proposal and video (Phase 3), and Grand Finals (Phase 7).
- Teachers and mentors shall also receive same certifications as acknowledgement of participation

APPENDIX 1: TEMPLATE PROJECT PROPOSAL

1

PROJECT TITLE

RBTX 2022: INNOVATION JUNIOR CATEGORY
Group Name:
Video Link:
Teacher's/Guardian's Name :
Participants Name
1.
2.
3.
4.

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2

Problem Statement

3

How will this project benefit the community

4

Project specification (with sketches)

5

Flowchart

6

Thank You

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APPENDIX 2: COMPLETE SUBMISSION SAMPLE - FOR REFERENCE ONLY

TONG PEMAJAK SAMPAH

RBTX 2022 : INNOVATION JUNIOR CATEGORY
Group Name: N.E.T Innovation (Sepilang)
Video Link:
Teacher's/Guardian's Name :
Participants Name

- 1.
- 2.
- 3.
- 4.

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1

Problem Statement

Masalah pembuangan sampah yang tidak terkawal kini di tahap yang membimbangkan. Ia jelas dibuktikan apabila Kementerian Perumahan dan Kerajaan Tempatan (KPKT) mendedahkan 60% masyarakat di negara ini masih tidak tahu membuang sampah dengan betul ke dalam tong sampah. Jadi, kami telah mencipta satu produk yang akan membantu mengurangkan masalah ini di kawasan awam seterusnya mendidik masyarakat supaya lebih bertanggungjawab ke atas bahan buangan mereka

2

How will this project benefit the community

Bangunan Sekolah

- Membantu pekerja pembersih membersihkan kawasan sekolah
- Menggalakan murid-murid menjaga kebersihan sekolah
- Meningkatkan sikap murid untuk bertanggungjawab menjaga kebersihan
- Membantu golongan kurang upaya (buta) menggunakan mesin
- Membantu murid yang susah mendapat ganjaran (akat tulis)

Kedai Runcit

- Membantu pekerja pembersih membersihkan kawasan berdekatan
- Menggalakan masyarakat menjaga kebersihan setempat
- Meningkatkan tanggungjawab masyarakat sekitar menjaga kebersihan
- Membantu golongan tua yang tidak mampu mendapatkan ganjaran (barangan runcit)
- Membantu golongan susah mendapatkan barangan asas runcit melalui ganjaran

Taman Permukiman

- Menjaga kebersihan taman-taman awam
- Menggalakan masyarakat terutama kanak-kanak membuang sampah
- Membantu pekerja kawasan menggalakan kebersihan
- Membantu ibu bapa mendidik anak menjaga kebersihan dengan menggunakan mesin

3

Project specification (with sketches)

4

Flowchart

5

Thank You

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