

Welcome to National Robotics Competition 2022

Main Organiser:



Operational Partner:



Supported by:

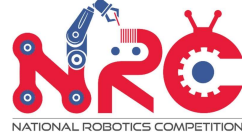


Sponsored by:



For any queries,
please chat with
“Ask me Questions on NRC”





WRO RoboMission (Previously known as WRO Regular Category)

Primary: 8-12 years old | Secondary: 13-16 years old | Tertiary: 16-19 years old

WRO Future Innovators (Previously known as WRO Open Category)

Primary: 8-12 years old | Secondary: 13-16 years old | Tertiary: 16-19 years old

WRO Future Engineers

14-19 years old

NRC Junior Robotics (Previously known as WeDo)

6-10 years old

NRC Pre-school (NEW)

4-6 years old

CoderZ Coding Challenge (Online)

Primary: 8-12 years old | Secondary: 13-16 years old

Main Organiser:



Operational Partner:



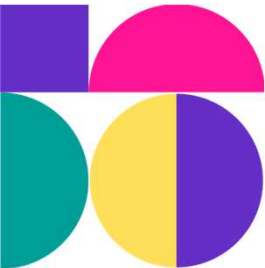
Supported by:

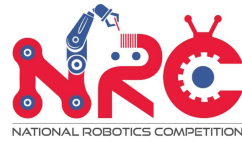


Sponsored by:



For any queries,
please chat with
"Ask me Questions on NRC"





**Held live on-site at Science Centre Singapore
from 23 August to 10 September 2022**



Main Organiser:



Operational Partner:



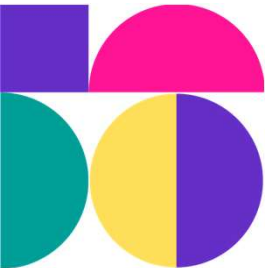
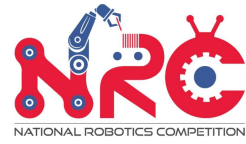
Supported by:



Sponsored by:



**For any queries,
please chat with
"Ask me Questions on NRC"**



Main Organiser:



Operational Partner:

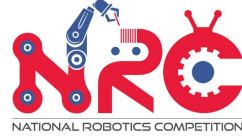


Supported by:



Sponsored by:





WRO Future Innovators Category 2022

Primary, Secondary, Tertiary



Main Organiser:



Operational Partner:



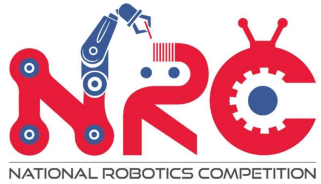
Supported by:



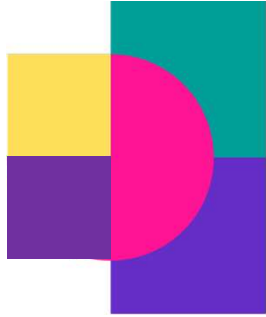
Sponsored by:



For any queries,
please chat with
"Ask me Questions on NRC"



Agenda for the webinar



- Introduction to WRO Future Innovators
- Introduction to the theme
- Scoring for each age-category
- Important Dates

Main Organiser:



Operational Partner:



Supported by:



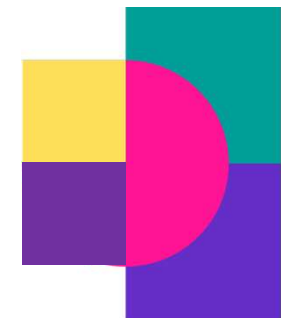
Sponsored by:



For any queries,
please chat with
“Ask me Questions on NRC”



Introduction to the WRO Future Innovators 2022



- Previously known as WRO Open Category
- Presentation

Main Organiser:



Operational Partner:



Supported by:

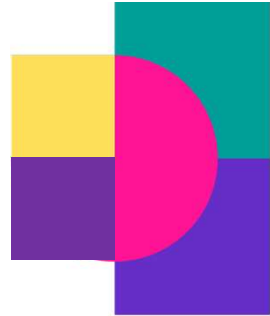


Sponsored by:



For any queries,
please chat with
“Ask me Questions on NRC”

WRO Future Innovators 2022



Presentations

- Each team has to make a 5 min presentation to Judges.
- What is your chosen problem?
- What is your robot solution?
- Present your ideas to the Judges!

Main Organiser:



Operational Partner:



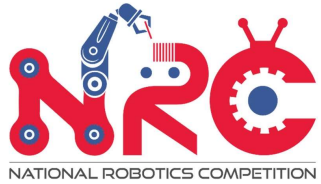
Supported by:



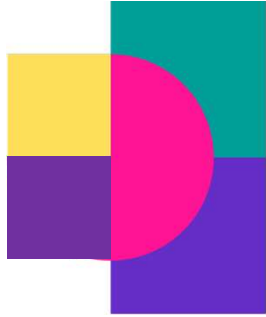
Sponsored by:



For any queries,
please chat with
“Ask me Questions on NRC”



Theme



- Develop a robot model which represents the robot as a friend and helper in the daily life of people

1. Robots at Home
2. Robots in Rescue
3. Robots in Healthcare

Main Organiser:



Operational Partner:



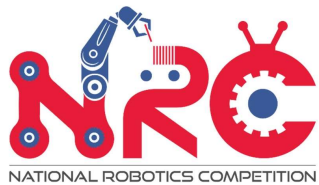
Supported by:



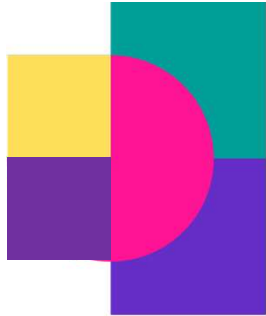
Sponsored by:



For any queries,
please chat with
“Ask me Questions on NRC”



Special Focus



- **Pri:** If you are in this age group, you will need to explain how your robotic solution will help your community.
- **Sec:** If you are in this age group, you will need to explain the impact of your solution on current issues facing society. Think of questions like: What impact will your robot model have on society? Who will benefit from your solution?
- **Ter:** If you are in this age group, you will have to investigate how your idea can become reality. Describe the possible challenges and demonstrate which problems still have to be solved to get your robot model ready for action. Present your thoughts in an appealing way.

Main Organiser:



Operational Partner:



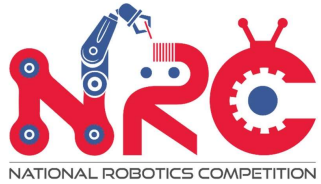
Supported by:



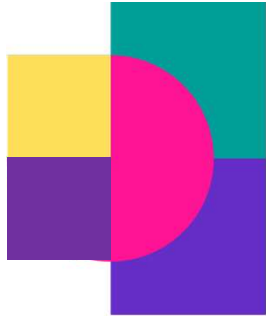
Sponsored by:



For any queries,
please chat with
“Ask me Questions on NRC”



WRO Future Innovators 2022



- Adapted from WRO Open (international)
- Ages: 8-19 years old
 - Age group definition
 - Primary : 8 to 12
 - Secondary: 13 to 16
 - Tertiary: 16 to 19
- Competition format
 - Live presentations onsite

Main Organiser:



Operational Partner:



Supported by:

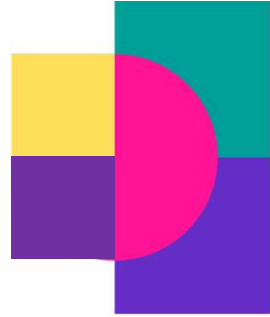


Sponsored by:



For any queries,
please chat with
“Ask me Questions on NRC”

Allowed robot systems



- There is no restriction on the balance between LEGO® elements and other materials.
- Use any software

E.G



Main Organiser:



Operational Partner:



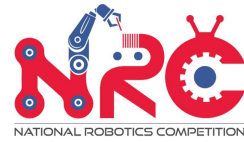
Supported by:



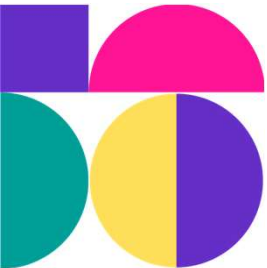
Sponsored by:



For any queries,
please chat with
“Ask me Questions on NRC”



Scoring



Main Organiser:



Operational Partner:



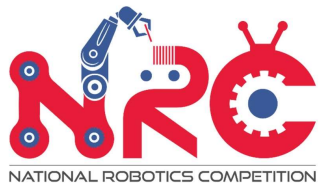
Supported by:



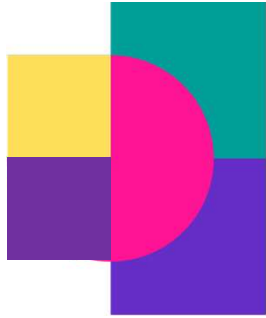
Sponsored by:



For any queries,
please chat with
"Ask me Questions on NRC"



Before Presentations, Submission



- **Submit written report**
 - Max : 15 pages
- **Submit video demo of robot**
 - Max : 1.5 Mins

Main Organiser:



Operational Partner:



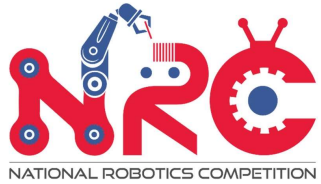
Supported by:



Sponsored by:

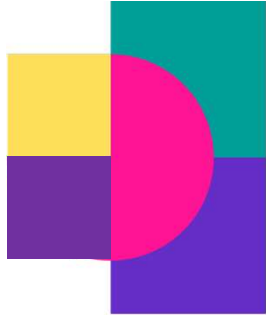


For any queries,
please chat with
“Ask me Questions on NRC”



Live Presentation

- Onsite at SCS
- Table : 120cm X 60cm
- Robot must be present
- Use of presentation deck allowed



Main Organiser:



Operational Partner:



Supported by:

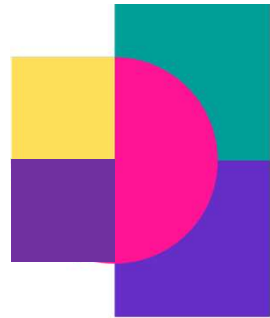


Sponsored by:



For any queries,
please chat with
“Ask me Questions on NRC”

Judging for Presentations



- Page 17-19 of Future Innovators Challenge Booklet
- 5 mins to present
- 5 mins for Q&A
- Maximum: 200 points
- Judging criteria differs across different categories

3 Judging Criteria

Category	Criteria	Points
1. Project (Total Points:50)	1. Creativity - The project is original, worthwhile and shows creative thinking / innovative and imaginative design / interesting and divergent interpretation and implementation.	10
	2. Quality of Solution - The project is well-thought out and is a good solution to the problem. The solution supports the theme of the WRO season.	15
	3. Research & Report - It is clear that research was done. The report is a good summary of the project : the problems - solutions - process - findings - team - task.	15
	4. Entertainment Value - The project has a certain "WOW" factor - looks fun, captures the attention of passers by - makes you want to see it again or learn more about it.	10
2. Programming (Total Points: 45)	1. Automation - The project uses appropriate inputs from sensors to run specific routines and clearly demonstrates automation in the completing of the tasks.	15
	2. Good Logic - The programming options used make sense, work reliably, are relevant in terms of their use, complexity and design.	15
	3. Complexity - The project uses multiple languages, sensors or controllers and incorporates more advanced / complex algorithms, structure and design.	15
3. Engineering Design (Total Points: 45)	1. Technical Understanding - Team members are able to produce clear, precise, and convincing explanations about each step of the mechanical and programming process.	15
	2. Engineering Concepts - The project shows evidence and good use of engineering concepts and team members are able to explain the concepts and need for use.	10
	3. Mechanical Efficiency - Parts and energy have been used efficiently - evidence of proper use of mechanical concepts / principles (gears/pulleys/levers/wheels & axles)	10
	4. Structural Stability - The project (robots and structures) are strong, sturdy and the demonstration can be run repeatedly - parts don't detach - little need for repairs.	5
	5. Aesthetics - The mechanical elements have aesthetic appeal, there is evidence that the team went out of their way to make the project look as professional as possible.	5
4. Presentation (Total Points 40)	1. Successful Demonstration - A demo of the capabilities was completed, there is evidence that it could reliably be repeated and that preparation and practice have taken place.	15
	2. Communication & Reasoning Skills - The team were able to present their project idea in an interesting way - how it works - why they chose it - why it has relevance.	10
	3. Quick Thinking - The team are able to easily answer questions about their project. They were also able to deal with any problems that arose during the presentation.	10
	4. Project Video - Only marks for videos provided on time. The video is a good pitch for the project - presenting the problem, the solution and the team.	5
5. Teamwork (Total Points: 20)	1. Unified Learning Outcome - There is evidence that team members have internalized knowledge and understanding of the subject matter pertaining to their project.	10
	2. Inclusiveness - The team are able to demonstrate that all members played an important role in the development, construction and presentation of their project.	5
	3. Team Spirit - The team display positive energy, good cohesiveness, value one another and are enthusiastic and excited about sharing their project with others.	5
Maximum Points		200

Main Organiser:



Operational Partner:



Supported by:



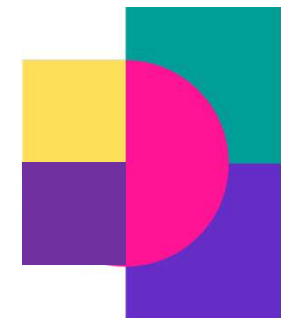
Sponsored by:



For any queries,
please chat with
"Ask me Questions on NRC"



Awards



Tournaments	Awards	Criteria
WRO Future Innovators	Championship	Participated in Presentation
	2 nd	
	3 rd	

Main Organiser:



Operational Partner:



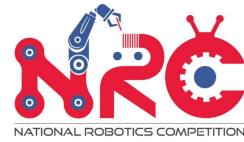
Supported by:



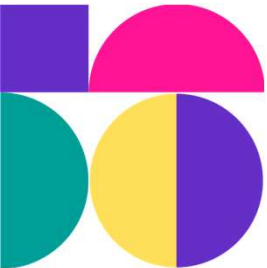
Sponsored by:



For any queries,
please chat with
"Ask me Questions on NRC"



Important Dates



Main Organiser:



Operational Partner:



Supported by:



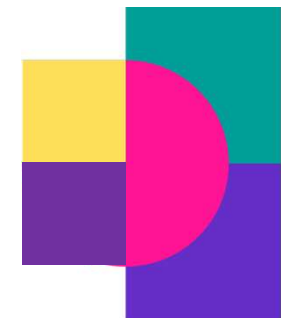
Sponsored by:



For any queries,
please chat with
"Ask me Questions on NRC"



Important Dates



Dates	Competition	Venue
2 nd September, 1700 hrs	WRO Future Innovators	Deadline for Online Submission of Report and Video
9 th September	WRO Future Innovators	On-site at Science Centre Singapore

Main Organiser:



Operational Partner:



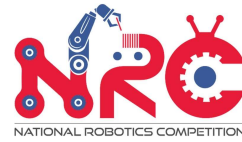
Supported by:



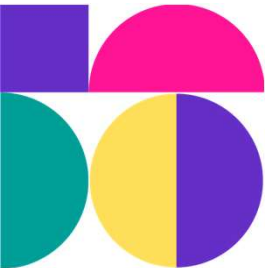
Sponsored by:



For any queries,
please chat with
"Ask me Questions on NRC"



Contact us/ Updates/ FAQ



Main Organiser:



Operational Partner:



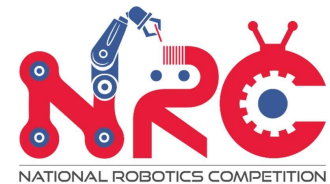
Supported by:



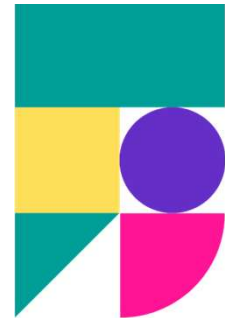
Sponsored by:



For any queries,
please chat with
"Ask me Questions on NRC"



Contact us/ Updates/ FAQ



Website



Social
Media



Sign-up
Link



Email

NRC@science.edu.sg

For any queries, please chat with “Ask me Questions on NRC”

Main Organiser:



Operational Partner:



Supported by:



Sponsored by:

