

# 2019 World GreenMech Contest Manual



## Organizers



國立中興大學  
National Chung Hsing University



世界機關王協會  
World Forum For GreenMech Promotion

## Operator



智高實業股份有限公司  
GENIUS TOY TAIWAN CO., LTD.

# World GreenMech Contest

2019

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# World GreenMech Contest

# 2019

## Overview

### Contest Purpose

The 2019 World GreenMech Contest is a fun engineering competition run by the World Forum For GreenMech Promotion. Using scientific principles, this competition combines the following five aspects of learning and growing: Science, Technology, Engineering, Art, and Mathematics, also referred to as STEAM. There are three contests: (i) GreenMech (ii) R4M and (iii) GreenMech Jr.

The two contests GreenMech & R4M inspire contestants to engage in scientific study, creative problem solving, and help them better understand use of scarce resources in project planning. Contestants can enjoy pitting their different skills and creativity against each other in a fun and friendly environment. There is ample opportunity for all contestants to show the benefit of their contribution.

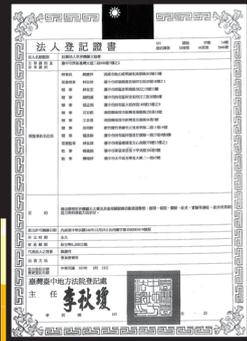
GreenMech Jr. is an entry level opportunity for newcomers to get involved in simple engineering projects. Designed for kindergarten and elementary school grades 1 to 4, GreenMech Jr. is the stepping stone to the higher-level device designs found in GreenMech. Contestants can enjoy the fun of hands-on design, teamwork and scientific literacy. All the abilities developed in the contest will be internalized and can be carried into their future daily lives.



In order to meet the needs of multinational competition promotion, the eight-nation alliance was signed in 2012. In 2014 this grew to become 12 regions.



- S** S = Science · 科學
- T** T = Technology · 科技
- E** E = Engineering · 工程
- A** A = Art · 藝術
- M** M = Mathematics · 數學



# World GreenMech Contest

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## Introduction

The GreenMech contest was established in 2006, this year we are celebrating the 13<sup>th</sup> annual contest !



### GreenMech (GM, since 2006)

- Inspiring children's enthusiasm for learning.
- Giving children the opportunity for hands-on engineering experiences.
- Turning textbook knowledge into real, design solutions.
- Work in tight-knit teams (3-4), designing and assembling within challenging time limits.



### Robot for Mission (R4M, since 2015)

- Inspiring creativity and curiosity about scientific techniques.
- Extending experiences from WGM to include remote control and programming functions.
- Work in tight-knit teams (3-4), designing and assembling within challenging time limits.



### GreenMech Junior (GMJr, since 2018)

- Opportunities for our youngest engineers & designers to get involved. (Designed for kindergarten and elementary school grades 1 to 4).
- Simple task design allows students to enjoy hands-on fun while learning valuable teamwork skills.

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## Contest Schedule

### GreenMech Schedule

Time	Item	Remarks
07:40 ~ 08:20	Registration	Time to enter the venue and find your own team table. Please put all the contest material under the table in order. Contestant can start to assemble the Jumbo Base Grid (60*180 cm) on table. Only contestants may be in the competition area after 08:00am. Team leaders and parents/guardians are not permitted after this time.
08:00 ~ 08:40	Materials check and registration check.	The team leaders shall not enter the competition venue after 8:00 AM. Judges will carry out a building materials inspection. Except for the chain, no blocks may be assembled in advance. After a brief inspection, teams will be given a "qualified" label, whereupon contestants should sit at the table and may not touch the materials. Personal items can be brought into the venue but must be placed on the table in conjunction with the inspection records. Contestants need to present their Certificate of Student Enrollment at this time, see section 10. 2. for more information.
08:40 ~ 09:00	Opening Ceremony/ Clarification of Rules	Due to site restrictions, contestants will not attend the opening ceremony.
09:00 ~ 11:40	Production & Testing time.	Please observe all competition rules. When leaving, do not run, be careful not to touch another group's work. There will be 160 minutes between commencement and lunch. Before leaving the venue at noon. Contestants must remember to organize the venue, personal items can be placed under the table. By 11:00am the Scientific Principles reference table will be collected by the Organizer.
11:40 ~ 12:30	Lunch	Remember to assist in sorting the trash.
12:30 ~ 12:40	Announcements.	Contestants should wait for the Organizer's announcements and then be prepared to continue. If Contestants are not present at this time, they may not continue with the competition.
12:40 ~ 12:50	Fine-tuning.	Wait for the Organizers instruction to begin.
12:50 ~ 16:30	Appraisals	Please refer to section 7. 2. 7.
16:30 ~ 17:00	Feedback and Communications.	Parents, teachers and peers may enter and discuss the projects.
17:00	Award Ceremony.	Organizers make every effort to finish on time, but patience may be required depending on announcements and other possible delays.

# World GreenMech Contest

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### Contest Schedule

#### R4M Schedule

Time	Item	Remarks
07:40 ~ 08:20	Registration	<ol style="list-style-type: none"><li>1. After registration contestants should enter the venue and not leave until the event has concluded.</li><li>2. After 08:00am only contestants may be in the competition area. Team leaders and parents/guardians are not permitted after this time.</li></ol>
08:00 ~ 08:40	Materials Inspection	<ol style="list-style-type: none"><li>1. Team leaders shall stay in their assigned areas after 08:00 and shall not enter the competition venue.</li><li>2. Referees will carry out a materials inspection. Blocks are not allowed to be assembled in advance. Chains are the only exception to this rule.</li><li>3. After passing the materials examination a label will be applied, students should then sit at the table and wait without touching the materials.</li><li>4. Personal items like bags can be brought into the venue but must be placed on the table in keeping with the inspection record.</li><li>5. Contestants need to submit their Certificate of Student Enrollment, see Section 10. 2.</li></ol>
08:40 ~ 09:15	Clarification of Rules	Clarification of the rules and precautions of the competition
09:15 ~ 11:15	Assembly & Practice Time	
09:40 ~ 11:30	Work Submission Period	<ol style="list-style-type: none"><li>1. Check to confirm the robot does not contain metal parts.</li><li>2. The robot and any spare car or other additions shall be weighed.</li><li>3. Participating robots need to be verified by the judges and retained until after the contest.</li><li>4. 5-Points may also be deducted for messy or untidy work areas.</li><li>5. For robot size regulations please see Section 9. 2. 1.</li><li>6. After Submitting their work, contestants need to put all items (such as notebook, blocks, unused electronic control equipment, etc.) away from the competition area.</li></ol>
11:30 ~ 12:30	Lunch	After lunch contestants are expected to assist with sorting trash and keeping the competition area clean.
12:30 ~ 12:50	Announcements	<ol style="list-style-type: none"><li>1. When entering the venue, contestants may only carry a notebook, tablet or mobile phone, other items are not permitted.</li><li>2. The omnivorous feed color is randomly chosen by lottery by the Organizer.</li></ol>
13:00 ~ 17:00	Competition Time	
17:00	Awards Ceremony	Organizers make every effort to finish on time, but some patience may be required depending on announcements and other possible delays.

# World GreenMech Contest

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### Contest Schedule

## GreenMech Junior Schedule

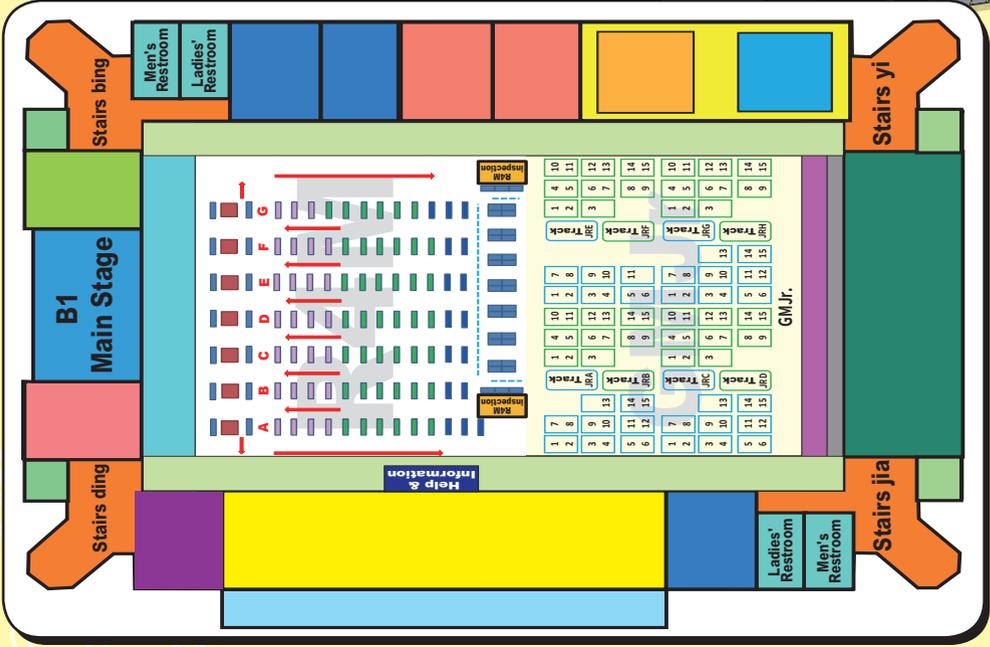
Time	Item	Remarks
08:40 ~ 09:00	Registration and Materials Inspection	<ol style="list-style-type: none"><li>1. Contestants should refer to the team location map on the official website before the contest begins, so they can go directly to their team table and report on the day of the contest.</li><li>2. Contestants should check the provided materials against the list they are given. If there is any part missing, the staff must be informed before the contest begins. Once the production time begins, materials cannot be replenished or replaced.</li><li>3. Contestants need to present their Certificate of Student Enrollment at this time, please see 8.2 in the full rule book for more information.</li></ol>
09:00 ~ 09:15	Rules reminder & lot drawing for scoring area	
09:15 ~ 09:45	【Competition One: Race Car】 Assembly & Practice Time	<ol style="list-style-type: none"><li>1. Contestants can only use the materials provided by the organizer on site, please see 5.3 in the full rule book for more information.</li><li>2. Models produced for the competition are built and tested at the same time.</li></ol>
09:45 ~ 10:15	【Competition One: Race car】 Competition Time	<ol style="list-style-type: none"><li>1. During the competition contestants may only use the provided peg remover. Other outside tools are not permitted.</li><li>2. Models will be weighed before the competition begins.</li></ol>
10:15 ~ 10:45	【Competition Two: Inertia Flywheel】 Assembly & Practice Time	<ol style="list-style-type: none"><li>1. Contestants can only use the materials provided by the organizer on site, please see 5.3 in the full rule book for more information.</li><li>2. Parts and pieces for models will be reused. The model used for the first competition will need to be disassembled for the second contest.</li></ol>
10:45 ~ 11:15	【Competition Two: Inertia Flywheel】 Competition Time	<ol style="list-style-type: none"><li>1. During the competition, contestants may only use the provided peg removal tool and stationary. Other outside tools are not permitted.</li><li>2. Models will be weighed before the competition.</li></ol>
11:15 ~ 11:40	Site Recovery	Participants located in venue area B1 should move to the 2F awards area.
11:40 ~ 11:50	Parents, teachers may enter venue	
11:50	Awards Ceremony	Awards will be given after the results are settled.



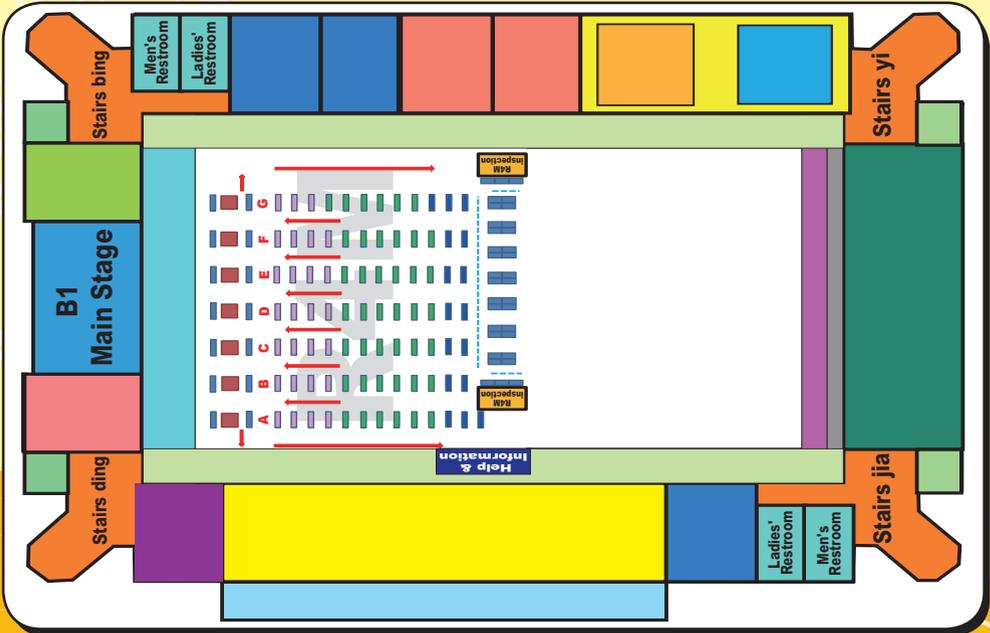
# World GreenMech Contest

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### Contest Floor Plan



R4M & GMJ (GreenMech Jr.) Floor Plan - B1 in the morning

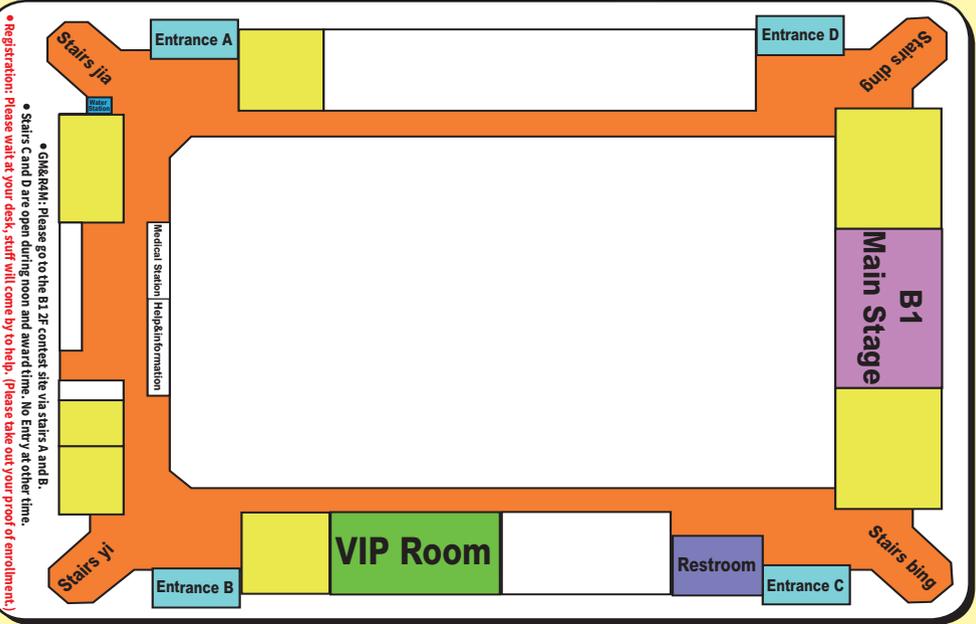


R4M & GMJ (GreenMech Jr.) Floor Plan - B1 in the afternoon

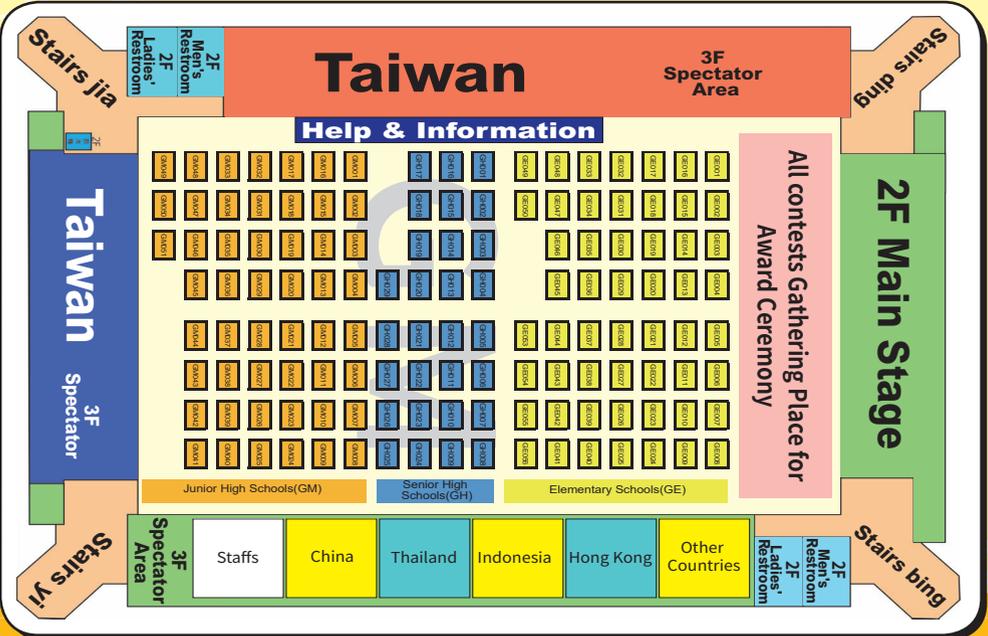
# World GreenMech Contest

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# Contest Floor Plan



GM (GreenMech) Floor Plan – 1F



GM (GreenMech) Floor Plan – 2F

# World GreenMech Contest

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## Contest Floor Plan

### GreenMech Team Location Map

## 2F

## 司令台

	Taiwan	OS	Total
國小Elementary school	39	15	54
國中Junior high school	39	12	51
高中Senior high school	17	12	29
小計Subtotal	95	39	134

座位編號 GE001 隊伍編號 G88601025 台灣 隊名 黑旗旋風	座位編號 GE002 隊伍編號 G88601068 台灣 隊名 無敵艦隊	座位編號 GE003 隊伍編號 G88601008 台灣 隊名 星際護衛隊	座位編號 GE004 隊伍編號 G88601010 台灣 隊名 生生不息	座位編號 GE005 隊伍編號 G88601014 台灣 隊名 驚奇狂想屋	座位編號 GE006 隊伍編號 G88601059 台灣 隊名 仲東C	座位編號 GE007 隊伍編號 G88601035 台灣 隊名 萊德國小	座位編號 GE008 隊伍編號 G88601009 台灣 隊名 璀璨夢想
座位編號 GE016 隊伍編號 G88601045 台灣 隊名 總理國小 (遺額轉隊)	座位編號 GE015 隊伍編號 G88601011 台灣 隊名 最後一戰	座位編號 GE014 隊伍編號 G88601032 台灣 隊名 創新科學代表隊	座位編號 GE013 隊伍編號 G88601034 台灣 隊名 海洋垃圾公園	座位編號 GE012 隊伍編號 G88601050 台灣 隊名 凱小五旋風隊	座位編號 GE011 隊伍編號 G88601020 台灣 隊名 機冠王	座位編號 GE010 隊伍編號 G88601049 台灣 隊名 聖誕叮叮噠	座位編號 GE009 隊伍編號 G88601054 台灣 隊名 奇喜小機關
座位編號 GE017 隊伍編號 G88601022 台灣 隊名 石岡	座位編號 GE018 隊伍編號 G88601044 台灣 隊名 十項全能	座位編號 GE019 隊伍編號 G88601070 台灣 隊名 南美I-構思隊	座位編號 GE020 隊伍編號 G88601033 台灣 隊名 環保紀元	座位編號 GE021 隊伍編號 G88601067 台灣 隊名 開東組	座位編號 GE022 隊伍編號 G88601012 台灣 隊名 中港綠巨人1	座位編號 GE023 隊伍編號 G88601063 台灣 隊名 黑夜傳說	座位編號 GE024 隊伍編號 G88601030 台灣 隊名 營盤心積
座位編號 GE032 隊伍編號 G88601062 台灣 隊名 希望隊	座位編號 GE031 隊伍編號 G88601058 台灣 隊名 康肅第一隊	座位編號 GE030 隊伍編號 G88601023 台灣 隊名 Great Master	座位編號 GE029 隊伍編號 G88601048 台灣 隊名 草園一級棒	座位編號 GE028 隊伍編號 G08601010 中國 隊名 綠色動力小队	座位編號 GE027 隊伍編號 G08601011 中國 隊名 妙想工程	座位編號 GE026 隊伍編號 G88601069 台灣 隊名 天降神尊"阿威"	座位編號 GE025 隊伍編號 G85201008 香港 隊名 Bright Sparks
座位編號 GE033 隊伍編號 G88601047 台灣 隊名 萬富樂樂隊	座位編號 GE034 隊伍編號 G88601026 台灣 隊名 黎明	座位編號 GE035 隊伍編號 G88601061 台灣 隊名 馴龍戰車	座位編號 GE036 隊伍編號 G88601027 台灣 隊名 小熊之旅	座位編號 GE037 隊伍編號 G08601009 中國 隊名 夢之翼	座位編號 GE038 隊伍編號 G08601008 中國 隊名 不可思議隊	座位編號 GE039 隊伍編號 G00701001 俄羅斯聖哈薩克代表隊 KUSITIRY SD Tarakanita KAZAKHSTAN Club of Deaf School	座位編號 GE040 隊伍編號 G85201007 香港 隊名 Turtle Saver
座位編號 GE048 隊伍編號 G88601037 台灣 隊名 三隻小豬	座位編號 GE047 隊伍編號 G88601060 台灣 隊名 仲東B	座位編號 GE046 隊伍編號 G88601017 台灣 隊名 竹北夜總會	座位編號 GE045 隊伍編號 G88601015 台灣 隊名 Cycle-不滅	座位編號 GE044 隊伍編號 G08601006 中國 隊名 環保小斗士	座位編號 GE043 隊伍編號 G08601007 中國 隊名 WD 机关天团	座位編號 GE042 隊伍編號 G06201001 印尼 SD Tarakanita Jakarta	座位編號 GE041 隊伍編號 G85201006 香港 THE PARTY OF EXTINCTION
座位編號 GE049 隊伍編號 G88601013 台灣 隊名 中港綠巨人2	座位編號 GE050 隊伍編號 G88601071 台灣 隊名 隊名刪除個字			座位編號 GE053 隊伍編號 G08601005 中國 隊名 多智匯機器人隊	座位編號 GE054 隊伍編號 G08601004 中國 隊名 中蒂教育	座位編號 GE055 隊伍編號 G06601002 泰國 隊名 DIAMOND	座位編號 GE056 隊伍編號 G06601001 泰國 隊名 ICON STEAM
座位編號 GH001 隊伍編號 G88603033 台灣 隊名 中道碧韻城小隊	座位編號 GH002 隊伍編號 G88602017 台灣 隊名 光德領角鴉	座位編號 GH003 隊伍編號 G88603027 台灣 隊名 滿輪方程式	座位編號 GH004 隊伍編號 G88603020 台灣 隊名 明日花Keelung	座位編號 GH005 隊伍編號 G88603006 台灣 隊名 Engineering	座位編號 GH006 隊伍編號 G08102001 日本 隊名 Rocket Bone	座位編號 GH007 隊伍編號 G06603003 泰國 隊名 WangnamyenA	座位編號 GH008 隊伍編號 G06603001 泰國 隊名 BWIT 2
座位編號 GH016 隊伍編號 G88603021 台灣 隊名 你不對我材對	座位編號 GH015 隊伍編號 G88603017 台灣 隊名 光德加1帥	座位編號 GH014 隊伍編號 G88603011 台灣 隊名 隊員顯示錯誤	座位編號 GH013 隊伍編號 G88603002 台灣 隊名 咕嚕咕嚕肚子租	座位編號 GH012 隊伍編號 G88603019 台灣 隊名 聊天聊聊天	座位編號 GH011 隊伍編號 G08603002 中國 隊名 王炸小队	座位編號 GH010 隊伍編號 G06602002 泰國 隊名 SK Althena	座位編號 GH009 隊伍編號 G06602004 泰國 隊名 Three T O 1

# World GreenMech Contest

# 2019

## Contest Floor Plan

### GreenMech Team Location Map

座位編號 GH017 隊伍編號 G88603028 台灣 隊名 哥哥也愛玩積木	座位編號 GH018 隊伍編號 G88603004 台灣 隊名 尊於零	座位編號 GH019 隊伍編號 G88603026 台灣 隊名 出奇制勝	座位編號 GH020 隊伍編號 G88603023 台灣 隊名 你看我的大槍木	座位編號 GH021 隊伍編號 G88603032 台灣 隊名 中道聽冬城小隊	座位編號 GH022 隊伍編號 G08603001 中國 隊名 IQ PLUS	座位編號 GH023 隊伍編號 G85203004 香港 隊名 寶物逃過	座位編號 GH024 隊伍編號 G06603006 泰國 隊名 Wangnamyen B
			座位編號 GH029 隊伍編號 G88603001 台灣 隊名 鋼鐵人	座位編號 GH028 隊伍編號 G88603022 台灣 隊名 我要喝osas咕咚	座位編號 GH027 隊伍編號 G85203001 香港 隊名 雪中悍刀行	座位編號 GH026 隊伍編號 G85203002 香港 隊名 Bigmech Dream	座位編號 GH025 隊伍編號 G06603005 泰國 隊名 Look Prabhudhaleela
座位編號 GM001 隊伍編號 G88602012 台灣 隊名 清中三隊	座位編號 GM002 隊伍編號 G88602145 台灣 隊名 草湖不倒隊	座位編號 GM003 隊伍編號 G88602092 台灣 隊名 光德慧星	座位編號 GM004 隊伍編號 G88602101 台灣 隊名 台灣燈會在屏東	座位編號 GM005 隊伍編號 G06202004 印尼 隊名 SMP St. Aloysius 1 Bandung	座位編號 GM006 隊伍編號 G06202002 印尼 隊名 SMP Tarakanita 4 Jakarta	座位編號 GM007 隊伍編號 G06602008 泰國 隊名 LookPudum	座位編號 GM008 隊伍編號 G06602003 泰國 隊名 SK Democrat
座位編號 GM016 隊伍編號 G88602103 台灣 隊名 蒐集寶石-拯救世界	座位編號 GM015 隊伍編號 G88602104 台灣 隊名 夢遊仙境	座位編號 GM014 隊伍編號 G88602111 台灣 隊名 蜂神榜	座位編號 GM013 隊伍編號 G88602023 台灣 隊名 蘭庭暴風雪	座位編號 GM012 隊伍編號 G06202001 印尼 隊名 MP Merlion School Surabaya	座位編號 GM011 隊伍編號 G85202001 香港 隊名 五行	座位編號 GM010 隊伍編號 G85202002 香港 隊名 CKMC	座位編號 GM009 隊伍編號 G85202003 香港 隊名 Smart City
座位編號 GM017 隊伍編號 G88602013 台灣 隊名 未來台中城	座位編號 GM018 隊伍編號 G88602008 台灣 隊名 日正當中1	座位編號 GM019 隊伍編號 G88602085 台灣 隊名 勇者闖天地	座位編號 GM020 隊伍編號 G88602090 台灣 隊名 哩哩辣辣	座位編號 GM021 隊伍編號 G08602005 中國 隊名 長發在手	座位編號 GM022 隊伍編號 G08602004 中國 隊名 碧云之星	座位編號 GM023 隊伍編號 G08602003 中國 隊名 404 Not Found	座位編號 GM024 隊伍編號 G08602002 中國 隊名 旋風小队
座位編號 GM032 隊伍編號 G88602024 台灣 隊名 天狼星2.0	座位編號 GM031 隊伍編號 G88602147 台灣 隊名 絕隊	座位編號 GM030 隊伍編號 G88602003 台灣 隊名 平行時空的乘積	座位編號 GM029 隊伍編號 G88602002 台灣 隊名 世界末日	座位編號 GM028 隊伍編號 G88602018 台灣 隊名 做就對了	座位編號 GM027 隊伍編號 G88602049 台灣 隊名 HM機器夢行者	座位編號 GM026 隊伍編號 G88602093 台灣 隊名 光德三國	座位編號 GM025 隊伍編號 G88602010 台灣 隊名 故宮驚魂夜
座位編號 GM033 隊伍編號 G88602094 台灣 隊名 奇幻樂園	座位編號 GM034 隊伍編號 G88602005 台灣 隊名 順天NO.1	座位編號 GM035 隊伍編號 G88602146 台灣 隊名 jumberock	座位編號 GM036 隊伍編號 G88602021 台灣 隊名 神力巴克禮	座位編號 GM037 隊伍編號 G88602100 台灣 隊名 星際艦隊	座位編號 GM038 隊伍編號 G88602026 台灣 隊名 三星三隊	座位編號 GM039 隊伍編號 G88602148 台灣 隊名 東東再遊-氣動山河	座位編號 GM040 隊伍編號 G88602014 台灣 隊名 當風遇到榕樹
座位編號 GM048 隊伍編號 G88602020 台灣 隊名 強強滾	座位編號 GM047 隊伍編號 G88602091 台灣 隊名 南榮紅鐵隊	座位編號 GM046 隊伍編號 G88602001 台灣 隊名 傑偉紀	座位編號 GM045 隊伍編號 G88602011 台灣 隊名 清中一隊星人類	座位編號 GM044 隊伍編號 G88602006 台灣 隊名 蜂狂夜總會	座位編號 GM043 隊伍編號 G88602095 台灣 隊名 SQUARE	座位編號 GM042 隊伍編號 G88602007 台灣 隊名 Dream	座位編號 GM041 隊伍編號 G88602112 台灣 隊名 清中二隊 星星人類
座位編號 GM049 隊伍編號 G88602087 台灣 隊名 誠意十足	座位編號 GM050 隊伍編號 G88602089 台灣 隊名 南榮防衛隊	座位編號 GM051 隊伍編號 G88602016 台灣 隊名 宇宙大霹靂					

國小 Elementary School  
國中 Junior High School  
高中 Senior High School

# World GreenMech Contest

# 2019

## Contest Floor Plan

### Robot 4 Mission Team Location Map

### B1

### 司令台

國小 Elementary school  
國中 Junior high school  
高中 senior high school  
小計 Subtotal

Taiwan total 19  
OS total 3  
Total Teams 22

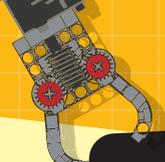
賽道A		賽道B		賽道C		賽道D		賽道E		賽道F		賽道G	
主審	副審	主審	副審	主審	副審	主審	副審	主審	副審	主審	副審	主審	副審
RA R0620 01 1001	SD Sutomo 1 Medan	RA R0620 02 1003	SD YAMAHANTA 4 FLUIT JAKARTA	RA R0620 03 4005	SD TARKANITA TAKING SERPONG TANGERANG	RA R0860 04 1004	小龙虾	RA R0860 05 1014	特務King	RA R0860 06 1005	你給我對不隊	RA R0860 07 1023	高雄市福山國小
RA R0860 08 1003	鱷魚展翅小隊	RA R0860 09 1002	皮皮虾	RA R0860 10 1017	仲夏A	RA R0860 11 1004	龍神黃島隊	RA R0860 12 1003	德運完成就隊	RA R0860 13 1001	多智汇机器人队	RA R0860 14 1012	希望之星
RA R0860 15 1015	桃園聯隊	RA R0860 16 1002	法院有存摺	RA R0860 17 1021	極速旋風	RA R0860 18 1018	火山號 R4M A	RA R0860 19 1019	火山號 R4M B	RA R0860 20 1013	戰鬥小雞	RA R0860 21 1010	大西創造者
RA R0860 22 1008	草園小戲客	RA R0860 23 1007	你贏我就不隊	RA R0860 24 4009	Golden Team	RA R0860 25 1022	搶分隊	RA R0860 26 1001	救世社仲	RA R0620 27 1006	SD Tunas Metropolitan Tangerang	RB R0620 01 2004	SMP ST ANGELA BANDUNG
RB R0620 02 2003	SMPK 2 BPK PENABUR JAKARTA	RB R0620 03 2001	SMP SUTOMO 2 MEDAN	RB R0620 04 2002	MARSUDIRI NI CAWANGI JAKARTA	RB R0860 05 2092	眼饞哥	RB R0860 06 2034	大鵬2號	RB R0860 07 2001	德吉长空	RB R0860 08 2003	TEAM紫-战队
RB R0860 09 2072	壹無此隊	RB R0860 10 2090	美國超哥	RB R0860 11 2094	Stella	RB R0860 12 2096	多吃沙拉	RB R0860 13 2006	愛你三千次	RB R0860 14 2019	HI	RB R0860 15 2004	北新道伽A隊
RB R0860 16 2070	熊熊黑騎士	RB R0860 17 2093	Legendary	RB R0860 18 2088	怎麼了	RB R0860 19 2005	北新道伽甲隊	RB R0860 20 2081	明正C隊	RB R0860 21 2002	江是老的辣	RB R0860 22 2002	黑暗幻影战队
RB R0860 23 2007	日正當中1	RB R0860 24 2003	湖中棒!	RB R0860 25 2080	舒跑越香	RB R0860 26 2018	廟前餅殼 燙臉戲	RB R0860 27 2069	三星二隊	RB R0860 28 2024	前進2020	RB R0860 29 2084	湖中棒!續
RB R0860 30 2013	NJJB	RB R0860 31 2014	NJJB A	RB R0860 32 2097	中山隊	RB R0860 33 2082	明正B隊	RB R0860 34 2008	舒跑瑪莉	RB R0860 35 2075	北新新入隊	RB R0860 36 2073	光德追風
RB R0860 37 2087	搖滾觀音	RB R0860 38 2015	永恆天下	RB R0860 39 3010	台灣製造	RB R0860 40 2074	技開8號	RB R0860 41 2089	熱氣傳理	RB R0860 42 2001	水火魚龍	RC R0620 01 3000	SMA SUTOMO 2 MEDAN
RC R0620 02 3002	SMA SUTOMO 1 MEDAN	RC R0860 03 3001	baby banana	RC R0860 04 3002	不知道要取什麼	RC R0860 05 3012	大鵬四號	RC R0860 06 3011	一級玩家	RC R0860 07 3018	光華高工	RC R0860 08 3006	沒有這一隊
RC R0860 09 3002	Baby Potato	RC R0860 10 3001	藝術王子洪老師	RC R0860 11 3015	古柯糖到古柯糖	RC R0860 12 3014	缺氣的金童 金玄	RC R0860 13 3005	德系紀開哈 哈哈	RC R0860 14 3017	湖中棒! 棒! 棒!	RC R0860 15 3016	愛我HOW爾 HOW哥NO1
RC R0860 16 3004	魔術威靈												

### GreenMech Junior Team Location

### Kindergarten & Elementary school

Taiwan total 105  
OS total 11  
Total Teams 116

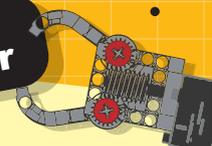
JRA001 新竹中正 4	JRA002 新竹中正 2	JRA003 新竹中正 3	JRA004 東山國瑞 壹C	JRA005 東山國瑞 壹C	JRA006 東山國瑞 壹C	JRA007 教之團隊 伍3	JRA008 教之團隊 伍4	JRA009 教之團隊 伍5	JRA010 教之團隊 伍6	JRA011 教之團隊 伍1	JRA012 教之團隊 伍2	JRA013 成城快車	JRA014 成城快車	JRA015 成城快車	JRB001 西屯國小 1隊	JRB002 R&T	JRB003 樂風翔隊	JRB004 逆風飛行 隊	JRB005 飛輪隊	JRB006 樂風翔隊	JRB007 大洲-南 海隊	JRB008 大洲-小 柯隊	JRB009 東山國瑞 壹C	JRB010 東山國瑞 壹C	JRB011 東山國瑞 壹C	JRB012 東山國瑞 壹C	JRB013 東山國瑞 壹C	JRB014 東山國瑞 壹C	JRB015 東山國瑞 壹C	JRB016 東山國瑞 壹C	JRB017 東山國瑞 壹C	JRB018 東山國瑞 壹C	JRB019 東山國瑞 壹C	JRB020 東山國瑞 壹C	JRE001 Bright Sparks 1	JRE002 SMS GIGO VIETNA	JRE003 FW5 GIGO VIETNA	JRE004 Moonah oic	JRE005 Tarakan ta Jakarta	JRE006 小南星	JRE007 SAS 333	JRE008 SAIGON 333	JRE009 Tarakan ta Jakarta	JRE010 SD V&V Ta ta 5	JRE011 GIGO VIETNA	JRE012 Stallions	JRE013 SD V&V Ta ta 5	JRE014 GIGO VIETNA	JRE015 Stallions	JRE016 SD V&V Ta ta 5	JRE017 GIGO VIETNA	JRE018 Stallions	JRE019 SD V&V Ta ta 5	JRE020 GIGO VIETNA	JRE021 Stallions	JRE022 SD V&V Ta ta 5	JRE023 GIGO VIETNA	JRE024 Stallions	JRE025 SD V&V Ta ta 5	JRE026 GIGO VIETNA	JRE027 Stallions	JRE028 SD V&V Ta ta 5	JRE029 GIGO VIETNA	JRE030 Stallions	JRE031 SD V&V Ta ta 5	JRE032 GIGO VIETNA	JRE033 Stallions	JRE034 SD V&V Ta ta 5	JRE035 GIGO VIETNA	JRE036 Stallions	JRE037 SD V&V Ta ta 5	JRE038 GIGO VIETNA	JRE039 Stallions	JRE040 SD V&V Ta ta 5	JRE041 GIGO VIETNA	JRE042 Stallions	JRE043 SD V&V Ta ta 5	JRE044 GIGO VIETNA	JRE045 Stallions	JRE046 SD V&V Ta ta 5	JRE047 GIGO VIETNA	JRE048 Stallions	JRE049 SD V&V Ta ta 5	JRE050 GIGO VIETNA	JRE051 Stallions	JRE052 SD V&V Ta ta 5	JRE053 GIGO VIETNA	JRE054 Stallions	JRE055 SD V&V Ta ta 5	JRE056 GIGO VIETNA	JRE057 Stallions	JRE058 SD V&V Ta ta 5	JRE059 GIGO VIETNA	JRE060 Stallions	JRE061 SD V&V Ta ta 5	JRE062 GIGO VIETNA	JRE063 Stallions	JRE064 SD V&V Ta ta 5	JRE065 GIGO VIETNA	JRE066 Stallions	JRE067 SD V&V Ta ta 5	JRE068 GIGO VIETNA	JRE069 Stallions	JRE070 SD V&V Ta ta 5	JRE071 GIGO VIETNA	JRE072 Stallions	JRE073 SD V&V Ta ta 5	JRE074 GIGO VIETNA	JRE075 Stallions	JRE076 SD V&V Ta ta 5	JRE077 GIGO VIETNA	JRE078 Stallions	JRE079 SD V&V Ta ta 5	JRE080 GIGO VIETNA	JRE081 Stallions	JRE082 SD V&V Ta ta 5	JRE083 GIGO VIETNA	JRE084 Stallions	JRE085 SD V&V Ta ta 5	JRE086 GIGO VIETNA	JRE087 Stallions	JRE088 SD V&V Ta ta 5	JRE089 GIGO VIETNA	JRE090 Stallions	JRE091 SD V&V Ta ta 5	JRE092 GIGO VIETNA	JRE093 Stallions	JRE094 SD V&V Ta ta 5	JRE095 GIGO VIETNA	JRE096 Stallions	JRE097 SD V&V Ta ta 5	JRE098 GIGO VIETNA	JRE099 Stallions	JRE100 SD V&V Ta ta 5	JRE101 GIGO VIETNA	JRE102 Stallions	JRE103 SD V&V Ta ta 5	JRE104 GIGO VIETNA	JRE105 Stallions	JRE106 SD V&V Ta ta 5	JRE107 GIGO VIETNA	JRE108 Stallions	JRE109 SD V&V Ta ta 5	JRE110 GIGO VIETNA	JRE111 Stallions	JRE112 SD V&V Ta ta 5	JRE113 GIGO VIETNA	JRE114 Stallions	JRE115 SD V&V Ta ta 5	JRE116 GIGO VIETNA	JRE117 Stallions	JRE118 SD V&V Ta ta 5	JRE119 GIGO VIETNA	JRE120 Stallions	JRE121 SD V&V Ta ta 5	JRE122 GIGO VIETNA	JRE123 Stallions	JRE124 SD V&V Ta ta 5	JRE125 GIGO VIETNA	JRE126 Stallions	JRE127 SD V&V Ta ta 5	JRE128 GIGO VIETNA	JRE129 Stallions	JRE130 SD V&V Ta ta 5	JRE131 GIGO VIETNA	JRE132 Stallions	JRE133 SD V&V Ta ta 5	JRE134 GIGO VIETNA	JRE135 Stallions	JRE136 SD V&V Ta ta 5	JRE137 GIGO VIETNA	JRE138 Stallions	JRE139 SD V&V Ta ta 5	JRE140 GIGO VIETNA	JRE141 Stallions	JRE142 SD V&V Ta ta 5	JRE143 GIGO VIETNA	JRE144 Stallions	JRE145 SD V&V Ta ta 5	JRE146 GIGO VIETNA	JRE147 Stallions	JRE148 SD V&V Ta ta 5	JRE149 GIGO VIETNA	JRE150 Stallions	JRE151 SD V&V Ta ta 5	JRE152 GIGO VIETNA	JRE153 Stallions	JRE154 SD V&V Ta ta 5	JRE155 GIGO VIETNA	JRE156 Stallions	JRE157 SD V&V Ta ta 5	JRE158 GIGO VIETNA	JRE159 Stallions	JRE160 SD V&V Ta ta 5	JRE161 GIGO VIETNA	JRE162 Stallions	JRE163 SD V&V Ta ta 5	JRE164 GIGO VIETNA	JRE165 Stallions	JRE166 SD V&V Ta ta 5	JRE167 GIGO VIETNA	JRE168 Stallions	JRE169 SD V&V Ta ta 5	JRE170 GIGO VIETNA	JRE171 Stallions	JRE172 SD V&V Ta ta 5	JRE173 GIGO VIETNA	JRE174 Stallions	JRE175 SD V&V Ta ta 5	JRE176 GIGO VIETNA	JRE177 Stallions	JRE178 SD V&V Ta ta 5	JRE179 GIGO VIETNA	JRE180 Stallions	JRE181 SD V&V Ta ta 5	JRE182 GIGO VIETNA	JRE183 Stallions	JRE184 SD V&V Ta ta 5	JRE185 GIGO VIETNA	JRE186 Stallions	JRE187 SD V&V Ta ta 5	JRE188 GIGO VIETNA	JRE189 Stallions	JRE190 SD V&V Ta ta 5	JRE191 GIGO VIETNA	JRE192 Stallions	JRE193 SD V&V Ta ta 5	JRE194 GIGO VIETNA	JRE195 Stallions	JRE196 SD V&V Ta ta 5	JRE197 GIGO VIETNA	JRE198 Stallions	JRE199 SD V&V Ta ta 5	JRE200 GIGO VIETNA	JRE201 Stallions	JRE202 SD V&V Ta ta 5	JRE203 GIGO VIETNA	JRE204 Stallions	JRE205 SD V&V Ta ta 5	JRE206 GIGO VIETNA	JRE207 Stallions	JRE208 SD V&V Ta ta 5	JRE209 GIGO VIETNA	JRE210 Stallions	JRE211 SD V&V Ta ta 5	JRE212 GIGO VIETNA	JRE213 Stallions	JRE214 SD V&V Ta ta 5	JRE215 GIGO VIETNA	JRE216 Stallions	JRE217 SD V&V Ta ta 5	JRE218 GIGO VIETNA	JRE219 Stallions	JRE220 SD V&V Ta ta 5	JRE221 GIGO VIETNA	JRE222 Stallions	JRE223 SD V&V Ta ta 5	JRE224 GIGO VIETNA	JRE225 Stallions	JRE226 SD V&V Ta ta 5	JRE227 GIGO VIETNA	JRE228 Stallions	JRE229 SD V&V Ta ta 5	JRE230 GIGO VIETNA	JRE231 Stallions	JRE232 SD V&V Ta ta 5	JRE233 GIGO VIETNA	JRE234 Stallions	JRE235 SD V&V Ta ta 5	JRE236 GIGO VIETNA	JRE237 Stallions	JRE238 SD V&V Ta ta 5	JRE239 GIGO VIETNA	JRE240 Stallions	JRE241 SD V&V Ta ta 5	JRE242 GIGO VIETNA	JRE243 Stallions	JRE244 SD V&V Ta ta 5	JRE245 GIGO VIETNA	JRE246 Stallions	JRE247 SD V&V Ta ta 5	JRE248 GIGO VIETNA	JRE249 Stallions	JRE250 SD V&V Ta ta 5	JRE251 GIGO VIETNA	JRE252 Stallions	JRE253 SD V&V Ta ta 5	JRE254 GIGO VIETNA	JRE255 Stallions	JRE256 SD V&V Ta ta 5	JRE257 GIGO VIETNA	JRE258 Stallions	JRE259 SD V&V Ta ta 5	JRE260 GIGO VIETNA	JRE261 Stallions	JRE262 SD V&V Ta ta 5	JRE263 GIGO VIETNA	JRE264 Stallions	JRE265 SD V&V Ta ta 5	JRE266 GIGO VIETNA	JRE267 Stallions	JRE268 SD V&V Ta ta 5	JRE269 GIGO VIETNA	JRE270 Stallions	JRE271 SD V&V Ta ta 5	JRE272 GIGO VIETNA	JRE273 Stallions	JRE274 SD V&V Ta ta 5	JRE275 GIGO VIETNA	JRE276 Stallions	JRE277 SD V&V Ta ta 5	JRE278 GIGO VIETNA	JRE279 Stallions	JRE280 SD V&V Ta ta 5	JRE281 GIGO VIETNA	JRE282 Stallions	JRE283 SD V&V Ta ta 5	JRE284 GIGO VIETNA	JRE285 Stallions	JRE286 SD V&V Ta ta 5	JRE287 GIGO VIETNA	JRE288 Stallions	JRE289 SD V&V Ta ta 5	JRE290 GIGO VIETNA	JRE291 Stallions	JRE292 SD V&V Ta ta 5	JRE293 GIGO VIETNA	JRE294 Stallions	JRE295 SD V&V Ta ta 5	JRE296 GIGO VIETNA	JRE297 Stallions	JRE298 SD V&V Ta ta 5	JRE299 GIGO VIETNA	JRE300 Stallions	JRE301 SD V&V Ta ta 5	JRE302 GIGO VIETNA	JRE303 Stallions	JRE304 SD V&V Ta ta 5	JRE305 GIGO VIETNA	JRE306 Stallions	JRE307 SD V&V Ta ta 5	JRE308 GIGO VIETNA	JRE309 Stallions	JRE310 SD V&V Ta ta 5	JRE311 GIGO VIETNA	JRE312 Stallions	JRE313 SD V&V Ta ta 5	JRE314 GIGO VIETNA	JRE315 Stallions	JRE316 SD V&V Ta ta 5	JRE317 GIGO VIETNA	JRE318 Stallions	JRE319 SD V&V Ta ta 5	JRE320 GIGO VIETNA	JRE321 Stallions	JRE322 SD V&V Ta ta 5	JRE323 GIGO VIETNA	JRE324 Stallions	JRE325 SD V&V Ta ta 5	JRE326 GIGO VIETNA	JRE327 Stallions	JRE328 SD V&V Ta ta 5	JRE329 GIGO VIETNA	JRE330 Stallions	JRE331 SD V&V Ta ta 5	JRE332 GIGO VIETNA	JRE333 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Stallions	JRE385 SD V&V Ta ta 5	JRE386 GIGO VIETNA	JRE387 Stallions	JRE388 SD V&V Ta ta 5	JRE389 GIGO VIETNA	JRE390 Stallions	JRE391 SD V&V Ta ta 5	JRE392 GIGO VIETNA	JRE393 Stallions	JRE394 SD V&V Ta ta 5	JRE395 GIGO VIETNA	JRE396 Stallions	JRE397 SD V&V Ta ta 5	JRE398 GIGO VIETNA	JRE399 Stallions	JRE400 SD V&V Ta ta 5	JRE401 GIGO VIETNA	JRE402 Stallions	JRE403 SD V&V Ta ta 5	JRE404 GIGO VIETNA	JRE405 Stallions	JRE406 SD V&V Ta ta 5	JRE407 GIGO VIETNA	JRE408 Stallions	JRE409 SD V&V Ta ta 5	JRE410 GIGO VIETNA	JRE411 Stallions	JRE412 SD V&V Ta ta 5	JRE413 GIGO VIETNA	JRE414 Stallions	JRE415 SD V&V Ta ta 5	JRE416 GIGO VIETNA	JRE417 Stallions	JRE418 SD V&V Ta ta 5	JRE419 GIGO VIETNA	JRE420 Stallions	JRE421 SD V&V Ta ta 5	JRE422 GIGO VIETNA	JRE423 Stallions	JRE424 SD V&V Ta ta 5	JRE425 GIGO VIETNA	JRE426 Stallions	JRE427 SD V&V Ta ta 5	JRE428 GIGO VIETNA	JRE429 Stallions	JRE430 SD V&V Ta ta 5	JRE431 GIGO VIETNA	JRE432 Stallions	JRE433 SD V&V Ta ta 5	JRE434 GIGO VIETNA	JRE435 Stallions	JRE436 SD V&V Ta ta 5	JRE437 GIGO VIETNA	JRE438 Stallions	JRE439 SD V&V Ta ta 5	JRE440 GIGO VIETNA	JRE441 Stallions	JRE442 SD V&V Ta ta 5	JRE443 GIGO VIETNA	JRE444 Stallions	JRE445 SD V&V Ta ta 5	JRE446 GIGO VIETNA	JRE447 Stallions	JRE448 SD V&V Ta ta 5	JRE449 GIGO VIETNA	JRE450 Stallions	JRE451 SD V&V Ta ta 5	JRE452 GIGO VIETNA	JRE453 Stallions	JRE454 SD V&V Ta ta 5	JRE455 GIGO VIETNA	JRE456 Stallions	JRE457 SD V&V Ta ta 5	JRE458 GIGO VIETNA
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# World GreenMech Contest

2019

Points to Remember



## — \ GreenMech FAQ

Q1: This year overseas judges will be joining the contest. Do teams still need to discuss ideas and concepts with the judges in English?

A1: GM is intended to be a fun, design and engineering contest, however English is an increasingly important aspect of life for many of our contestants. For now, the Creativity part of the senior high level contest must be expressed in English.

Q2: Can the ball circulation task use materials like paper sheets next to the track/ blocks, to stop the ball from falling?

A2: The ball must not make contact with any decoration, or other imported items. It is possible to prevent the ball from falling, but only Gigo parts must be used, and if the ball does accidentally fall into a security device, but continues to otherwise function correctly, judges may still make a point deduction. The device for lifting the ball up, and the path it follows must be made entirely of Gigo parts and must use the Gigo motor provided.

Q3: Is the mechanism which sends the ball from the S area, to the A or B area, limited to 20 x 20 cm? Or can the ball go outside the 20 x 20 cm range?

A3: The ball needs to be placed in the S area, and lower than the B area. The mechanism for transporting the ball has no area limit.

Q4: Please give some more information on the platform heights, device height limits and any scoring penalties.

A4: Of course, we're happy to help!

(i) Devices in areas S or E are lower than the A and B high-platforms. The height limit is determined by the bottom of the plates that are the A and B platforms. This means that any object in the S or E area is lower than the bottom of the A and B high-platform.

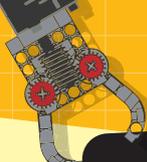
(ii) The position of the ball in the S area must be below the bottom of the B high platform.

(iii) Two points are deducted if the team violates one of these two regulations.

(iv) The maximum point deduction for this is two points. There is no height restriction of the device in the S area.

Q5: Can I complete the specified task in the 60 x 60 cm area where S, B, and E are located?

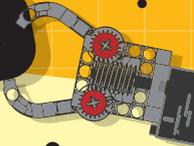
A5: Yes, the circulation mechanism does not have a size limit.



# World GreenMech Contest

2019

## Points to Remember



Q6: The circulation device must be made from Gigo parts, but it is also necessary to use a device such as an electric motor. Do contestants have to use the switches and wires that come with Gigo blocks?

A6: Only in Circulatory device, contestants must use Gigo components; however, contestants can use non-Gigo wires or switches.

6 points can be obtained by designing the circulatory mechanism and using Gigo blocks to assemble correctly on site. Other decorative items may not be used, and rule violations will result in point deductions.

Q7: If the different parts of a project use the principles of refraction and reflection, are they scored separately on their usage principle, or does it only score once as an optical principle?

A7: In this case, it would only score once, as an optical principle. This encourages a diversity of scientific principles to be used.

Q8: Can the following front-list items be used for cycle construction? Rubber bands, cotton threads, drawstrings, 3D printed parts, laser cut parts, adhesives (e.g. tape, glue, hot glue-gun).

A8: Yes, they can be used, please refer to the regulation (7.4) for more information.

Q9: In the demonstration video, it seems that the circulation mechanism can be raised without the ball touching the ground. Does the rise height have to be at least 15 cm or more vertically in order to get a score for “raising diversity”?

A9: Yes. To score for “raising diversity”, students must complete the 15cm lift using different principles.

Q10: Are there limits to the height of devices on the A or B high platforms?

A10: There are no height restrictions.

Q11: What are the different types of mechanisms that can be used for raising diversity? Would rotational raising count?

A11: Device raising diversity means that the ball must be moved from the low position to the high position by different methods. Devices that use the same principle, but only have a different appearance, will be considered as only using one scientific principle. Contestants should be sure that they are using a variety of scientific principles.

Q12: Does the circulation device count as one of the 10 devices?

A12: No, it does not. The project should be 10 devices, plus the circulator. Teams that

# World GreenMech Contest

2019

Points to Remember

do not meet this requirement will not score points.

Q13: Are the positions of the S, E, and A and B areas fixed? What can be changed?

A13: The S and E areas of the circulation mechanism are on the right hand side at the front. The S area is on the lower left of the right side, and the E area is the lower right side of the right side. If the placement of the small ball in the S and E areas is not correct then points will be deducted. See the regulations for a complete diagram.

Q14: If we exceeded the project area's maximum height (100cm), will there be a point deduction?

A14: In the morning the devices will be constructed and the judges will come round to do an inspection. If the model is within the specified dimensional criteria (180 x 60 x 100 cm) no penalty is applied. If the model exceeds the dimensions, points will be deducted. If the model exceeds the dimensions, but above 100 cm, no deduction will be made.

Q15: Is there a limit on the number of 3D printed parts contestants can bring in?

A15: No, there is no quantity limit, but they must all comply with the size limit of 4cm x 4cm x 4cm. 3D printed items will be tested by judges.

Q16: Can you clarify the description "multiple batteries in series must be 15V"?

A16: This means that there is no limit to the quantity of batteries you use, however the total voltage across the circuit may not exceed 15V. Using less than 15V is acceptable.

Q17: What is "smoothness" and how is it calculated?

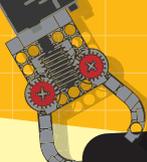
A17: Smoothness refers to how cleanly, efficiently, and effectively the devices operate. For example when a device needs a manual restart or help to function, then one point will be deducted. For devices 1 - 10, if it requires assistance points will be deducted. Where a scientific principle or green energy principle is not demonstrated, 1 point will be deducted.

Q18: Is the Specified Checkpoint only placed on the right hand side?

A18: Yes. This regulation must be observed.

Q19: What are the height limits of the A and B high-platforms?

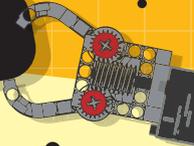
A19: The height of the A and B platforms are defined in Gigo pieces as they are constructed from them. The A high-platform is 3 of Gigo's 6-hole tracks high, and



# World GreenMech Contest

2019

Points to Remember



the B high-platform is 2, Gigo 6-hole tracks high. The tracks are connected using a track connect piece.

Q20: Is there a height limit for devices in the S area or the E area?

A20: Yes, the devices in the S and E areas must not be higher than the A and B high-platforms. And the ball needs to be located in the S zone and lower than the B platform.

Q21: Can we add any components to make the A or B high-platform higher?

A21: No, that is not allowed, but you can strengthen the foundations of the A or B high-platform to make it more stable, without affecting the height.

Q22: For the specific achievement requirements in Task 3, if the optical phenomenon only displays on the A or B high-platform but does not link to the next mechanism will it still score points?

A22: Yes, this would still score points.

Q23: If the light source of our project is on, but does not use an optical principle such as reflection, refraction or diffraction, can we still score points?

A23: No, to score points in the optical category you must specifically demonstrate the principle, failure to do so will result in a 2 point deduction.

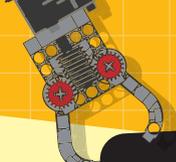
Q24: For the specific achievements in Task 6, can we make our action exceed the size of the E zone (20 x 20 cm)?

A24: When the ball passes the E area, the ball needs to activate the next task action. The size and the position (height) of the task device in the E area is not limited. If (i) the ball doesn't pass through the E area or (ii) the ball doesn't activate the next task action, then 2 points will be deducted. (The maximum deduction here is total 2 points.)

Q25: If we feel that a judgement has been unfair and we want to complain during the competition, what can we do?

A25: We hope this never happens, but if it does then please ask our staff for a complaint form. This should be completed during the competition and as soon as possible. It will record the details of your complaint and will have to be signed by the plaintiff. The Head Judge will investigate all complaints and make a ruling in the Resolution section.

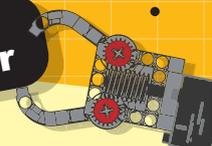




# World GreenMech Contest

## 2019

### Points to Remember



Q26: Has there been a change of name for the Overseas Award?

A26: Yes. The award has been renamed from “Overseas Best Performance” to “STEAM Overseas Educational Contribution Award”.

## 二、Robot 4 Mission FAQ

Q1: If an animal is in the red lined area, but their ear is on the orange divider, is this sufficient?

A1: The animal's entire form needs to be within the red line and the orange separator column.

Q2: Do the two, green giraffe feeds need to be pushed by the C car?

A2: The giraffe feed does not need to be pushed by the C car. The A car or B car can transport the giraffe feed to the giraffe park.

Q3: Does the last light signal from the C car need to flash? Can we leave the lights running all the time?

A3: The C car needs to totally enter the energy supply station, then turn on the lights (without flashing) until the end of the challenge. Doing this earns 10 points.

Q4: Can we pre-write the program for the C car before the contest?

A4: The player may write the program before or during the contest. During the contest the robot is only controlled by the program.

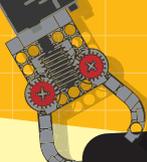
Q5: Please explain more about the 2019 R4M material limitations.

A5: The 2019 R4M material limitations have been updated. Parts used must come from the Gigo catalogue. Exceptions to this are rubber bands and cotton thread, which can be brought in from outside as long as they do not convey any unfair advantage or risk to contestants.

Q6: If the C car lights up successfully after crossing the finish line, but some part of the car body is outside the marked area, can contestants still get 10 points for lighting?

A6: The entire vehicle must be within the marked area (energy supply station) to score.

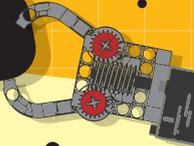
Q7: If the C car has to be restarted, can we press the button ourselves, or does it



# World GreenMech Contest

2019

Points to Remember



have to be pressed by the A or B robots?

A7: The C car only needs to be initiated by the A or B car for the first use. If a restart is required, the player can start it manually.

Q8: Please can you explain the scoring for Task 2?

A8: After confirmation by a review team, the score for this part will be determined by (i) whether the C car is fully inside the energy supply station (ii) did the car light up correctly. If the car lights up before entering the energy supply station it will not score points.

Q9: Can a rubber band be used to hold the 18650 battery case in place?

A9: No.

Q10: Do the A and B car battery boxes have particular specifications?

A10: The voltage and motor must comply with the stated limits, but there is no specific limit on the battery box; however, if there is a problem with a robot caused by a modified Gigo product, then the team must bear the responsibility.

Q11: If the A or B car accidentally hits the feed, the team will lose points for area destruction, but if the three feeds have fallen how will the point deduction be calculated? Can the feed be reset and be used for another attempt?

A11: If a team knocks out one feed item, five points are deducted. If the feed has not fallen off the platform, no points will be deducted. There is no upper limit for point deduction if feed is knocked down. Each fallen feed item is deducted and cannot be reset or reused.

Q12: Can the animals be returned to their original positions?

A12: If the A or B vehicles are malfunctioning when moving animals and if the vehicle is holding, grabbing or touching an animal, it can be returned to the referee. In other situations, animals cannot be manually returned.

Q13: Can the contestant adjust any aspects of the competition area before the start of the competition?

A13: Within certain limits, yes. It is only possible to adjust the rotation angle of the four flags and the rotation angle of the corner feed-blocks. Nothing can be removed.

Q14: Will teams lose points if they touch the vehicles or step into the contest area without a judge's consent?

A14: Yes. The first offense will result in a warning, the second will receive a 5 point deduction. Further deductions are possible and will be based on the number of incidents.

# World GreenMech Contest

2019

Points to Remember

## ≡ \ GreenMech Junior FAQ

Q1: [Competition 2: Flywheel] Is there a size limit for the models?

A1: The car body must fit completely within the preparation area (80cm x 60cm); otherwise, there is no limit.

Q2: [Competition 2: Flywheel] Can the car go outside (exceed) the preparation area when accumulating energy? Can you tell us more about the operation method for the contest?

A2: Once the judges arrive, players will place their vehicles in the preparation area. This will confirm that the vehicle is complete and that the finished vehicle fits within the area. Players can accumulate kinetic energy for the contest in the preparation area, or the surrounding area. Vehicles must be released within 30 seconds, otherwise the attempt will be deemed a failure. When releasing the vehicle, the furthest forward point (in the direction of the scoring zone) must be behind the start line marked on the preparation area.

Q3: If the target is not knocked down, but is pushed away from where it stood, will it be put back in place?

A3: Each team has three opportunities to score and targets will not be reset after each opportunity. Judges will remove objects that have been knocked down, so that they do not interfere with the contest. Judges may decide not to pick up an object when it is in contact with another object, or where it may affect other standing targets.

Q4: Can I use my own objects as targets on the day of the competition?

A4: No, in order to be fair, everyone must use the same materials that are provided by the conference.

Q5: [Competition 2: Flywheel] Can I use an elastic band in the Flywheel contest?

A5: No. The inertia stored by the flywheel is the only source of power allowed for the vehicle, nothing can replace or augment it.



# World GreenMech Contest

# 2019

# Awards

## World GreenMech Awards

GM & R4M Contest Award

Position	Prizes	Number of Awards
Gold Medal (1 <sup>st</sup> place)	1. Award certificate for contestants and team leader. 2. Cash NTD \$20,000.	One team for each division
Silver Medal (2 <sup>nd</sup> place)	1. Award certificate for contestants and team leader. 2. Cash NTD \$10,000.	Two teams for each division
Bronze Medal (3 <sup>rd</sup> place)	1. Award Certificate for Contestant and team leader 2. Cash NTD\$5,000.	Three teams for each division
Honorable Mention Award	Award certificate for contestants and team leader.	For top 50 <sup>th</sup> percentile in each division
STEAM Overseas Educational Contribution Award	For overseas countries	

## Taiwanese Contest Awards

GM & R4M Contest Award

Position	Prizes	Number of Awards
Gold Medal (1 <sup>st</sup> place)	Award certificate for contestants and team leader.	One team for each division
Silver Medal (2 <sup>nd</sup> place)		Two teams for each division
Bronze Medal (3 <sup>rd</sup> place)		Three teams for each division
Honorable Mention Award		For top 50 <sup>th</sup> percentile in each division

1. The winners list will be reported to the educational authorities by the Organizer after the contest.
2. Only the Gold Medal, Silver Medal, Bronze Medal winners of the World GreenMech and STEAM Overseas Educational Contribution Award will be announced on the day of the contest. (Merit certificates for winning teams will be sent out within one month of the completed contest.)
3. All contestants will be presented with certificates as a gesture of encouragement. These certificates will be offered on website, and both contestants and team leaders can sign in and print out Competition Certificates by themselves.

# World GreenMech Contest

# 2019

# Awards

## GreenMech Junior Contest Award

Position	Prizes	Number of Awards
Gold Medal	1. Award certificate for contestants and team leader. 2. One product prize for each participant.	One team
Silver Medal	1. Award certificate for contestants and team leader. 2. One product prize for each participant.	Two teams
Bronze Medal	1. Award Certificate for Contestant and team leader. 2. One product prize for each participant.	Three teams
Honorable Award	Award certificate for contestants and team leader.	For top 50 <sup>th</sup> percentile

1. The winners list will be reported to the educational authorities by the Organizer after the contest.
2. The Gold Medal, Silver Medal, Bronze Medal winners will be announced on the day of the contest. All Certificates will be received within one month of the completed contest.
3. All contestants will be presented with certificates as a gesture of encouragement. These certificates will be offered on website, and both contestants and team leaders can sign in and print out Competition Certificates by themselves.

### Remarks

1. The Contest Organizers reserve the right to adjust the above prize schedules for any reason, which may mean increasing or decreasing them. The total number of teams entered in the competition may be a factor in deciding final prizes if the number of contestants changes.
2. Winning Team Obligations: Winning teams must cooperate with the Organizer to display and preserve their designs.
3. In the event of incorrect personal information being submitted during registration (i.e. incorrect name, mail or email address) postage and other costs for replacement will be borne by the contestant. (It's NT\$200.)

### GM, R4M & GMJR Trophies



### Contestant Medals



# World GreenMech Contest

2019

Appendix

## On Site

NCHU Student Center Restaurant

Links : <http://oga1.nchu.edu.tw/recruit1/recruit.html>

Actual business hours may be subject to change.

## Taxi Information

Metro Taxi Co., Ltd.

(04)4499178

Direct Taxi

Contact Number 55178

Taiwan Taxi Co., Ltd.

(04)22591918

(04)22465555

Direct Taxi

Contact Number 55688

ZhongNanHai Co., Ltd.

(04)23163388

## Sightseeing Recommendation

National Library of Public Information <https://www.nlpi.edu.tw/>



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## World Forum For GreenMech Promotion

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Tel: +886-4-2320-3456 #38 Fax: +886-4-2320-3898

[www.worldgreenmech.com](http://www.worldgreenmech.com)



World GreenMech Contest  
Official Website

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