

World Robot Summit

January 2018

Ministry of Economy, Trade and Industry (METI)

**New Energy and Industrial Technology
Development Organization (NEDO)**

- The World Robot Summit (WRS) is a “Challenge and Expo” that brings together Robot Excellence from around the world in order to promote a world where robots and humans successfully live and work together.
- The WRS will feature 1) World Robot Challenge (WRC) where robots will compete with one another and 2) World Robot Expo (WRE) where the latest technologies will be exhibited.
- Participants from all over the world will come together in one location with the aim of accelerating the R&D and practical implementation of robots, in both the personal and industrial sectors of society.

● Goals

Implementation of robots in society, including the daily lives of individuals and in industrial sectors

Acceleration of R&D on robots

Realization of a world where robots and humans live and work together

● Approach

By combining robot challenge (WRC) and exhibition (WRE), the WRS will bring together and showcase Robot Excellence from around the world. WRS shall

Raise awareness, interest, expectation, and understanding of ordinary people toward robotics

Encourage scientists and engineers to interact with each other and stimulate each other's R&D

Provide opportunities for ordinary people to connect with researchers and industry experts and learn directly from them about the latest studies and use cases in the field of robotics

● Factors that will be Examined

Physical and intellectual functionalities of robots

Applicability of robots in actual society, including daily lives of individuals and industrial sectors

Ordinary people's increased accessibility and acceptance of robots

Schedule



World Robot Summit

World Robot Summit 2018 TOKYO

@Tokyo Big Sight

October 17-21

World Robot Summit 2020 AICHI/FUKUSHIMA

@Aichi International Exhibition Center
in **October**

@Fukushima Robot Test Field in **August**



[Held alongside]
Japan Robot Week 2018
@Tokyo Big Sight
October 17-21

[Held alongside (tentative)]
**RoboCup Asia-Pacific Open and
Japan Robot Week 2020**

World Robot Summit 2018 TOKYO

Name World Robot Summit 2018 (Pre-competition)
Venue Tokyo Big Sight EAST Halls 6/7/8
Schedule Oct.17(Wed)-Oct.21(Sun), 2018
*Held alongside: Japan Robot Week 2018
Host Ministry of Economy, Trade and Industry (METI)
/New Energy Industrial Technology Development
Organization (NEDO)

World Robot Summit 2020 AICHI/FUKUSHIMA

Name World Robot Summit 2020 (Main competition)
Venue Aichi International Exhibition Center
*A part of the challenges under the Disaster
Robotics Category is scheduled as follow:
Venue: Fukushima Robot Test Field
Schedule: Mid-August, 2020 for about 3 days
Schedule Early October, 2020
*Held alongside (tentative): RoboCup Asia-Pacific
Open and Japan Robot week 2020
Host Ministry of Economy, Trade and Industry (METI)
/ New Energy Industrial Technology Development
Organization (NEDO)



World Robot Challenge 2018

- A total of 9 challenges in 4 categories. ※1
- Total amount of prize money for the World Robot Challenge 2018 will exceed 100 million yen. ※2



Category	Challenge	Challenge Summary	Prize
Industrial Robotics	Assembly Challenge	Belt-drive unit assembly, Task board and Kitting	21 million yen (1st Place: 15 million yen, 2nd Place: 5 million yen, 3rd Place: 1 million yen)
Service Robotics	Partner Robot Challenge (House Support Challenge) Real Space League HSR(Toyota Motor Corporation) as the standard robot platform	1. Bring Me Go get an object from a designated room. 2. Tidy Up Here Test Tidy up the objects to the original positions in a room. 3. Demonstration Demonstrate the concept of future partner robots which make humans comfortable and happy.	14 million yen (1st Place: 10 million yen, 2nd Place: 3 million yen, 3rd Place: 1 million yen)
	Partner Robot Challenge (House Support Challenge) Virtual Space League HSR(Toyota Motor Corporation) as the standard robot platform	1. Handyman The robot demonstrates navigation tasks, human-robot interaction task, etc. 2. Interactive Cleanup The robot observes human gesture to understand the target object and the trash can. 3. Human Navigation The robot generates a linguistic instruction for a real user to find a target object in an unknown virtual environment. 4. Open Task The participants demonstrate human-robot interaction tasks by using the simulator and make presentations on those tasks.	14 million yen (1st Place: 10 million yen, 2nd Place: 3 million yen, 3rd Place: 1 million yen)
	Future Convenience Store Challenge (Automation of Retail Work Challenge)	1. Stocking and Disposing Tasks Self-stocking of products such as onigiri rice balls, bento lunch boxes, etc., and removing expired foods 2. Customer Interaction Task Proposing and demonstrating customer services in the near future 3. Toilet Cleaning Task Cleaning toilet seat, toilet floor and wall	13.9 million yen (Additional 1 million yen to the best team among the 1st-place teams) Stocking and Disposing Tasks (1st Place: 3 million yen, 2nd Place: 1 million yen, 3rd Place: 0.3 million yen) Customer Interaction Task (1st Place: 3 million yen, 2nd Place: 1 million yen, 3rd Place: 0.3 million yen) Toilet Cleaning Task (1st Place: 3 million yen, 2nd Place: 1 million yen, 3rd Place: 0.3 million yen)
Disaster Robotics	Plant Disaster Prevention Challenge	Daily Inspection/Maintenance: Visually recognize and adjust the valves etc. installed at specified position. Fault Detection: Measure fault sound and/or vibration of pipes of which positions are not specified, and report the measurement results. Diagnosis: For a large structure, e.g., tank and chimney, diagnose the health of the structure. Disaster Response: Respond to the accident occurred during the inspection.	14 million yen (1st Place: 10 million yen, 2nd Place: 3 million yen, 3rd Place: 1 million yen)
	Tunnel Disaster Response and Recovery Challenge	6 tasks: Traversing obstacles, Vehicle inspection, Vehicle inspection using tools and rescue, Secure the route, Fire extinguish, Shoring and Breaching.	14 million yen (1st Place: 10 million yen, 2nd Place: 3 million yen, 3rd Place: 1 million yen)
	Standard Disaster Robotics Challenge	Assessing standard performance levels (e.g. mobility, sensing, information collection, wireless communication, remote control, on-site deployment, durability, etc.) required in disaster prevention and responses.	14 million yen (1st Place: 10 million yen, 2nd Place: 3 million yen, 3rd Place: 1 million yen)
Junior	School Robot Challenge Pepper(SoftBank Group Corp.) as the standard robot platform	1. Skill Challenge 2. Open Demonstration Participating teams will demonstrate a robot 3. Technical Interview Participating teams will have an interview with a panel of judges	N/A ※3
	Home Robot Challenge	Setting tasks such as picking and placing an object at home and making robots to perform those tasks. Skill Challenge, Open Demonstration, Technical Interview.	

※1 With regards to competition details in 2020, stated details are all present assumptions and the final details will be confirmed by referring to the progress of technology and the results of pre-competition held in 2018.

※2 There will be no winners if no participating teams can accomplish a certain level of performance.

※3 The winners will be given prize instead of prize money.

Support for participating teams

- Travel allowances and transportation costs might be granted to some participating teams after screening of the documents by the judging committee, which consists of robotics experts.
- Development costs might be granted up to a certain amount to some participating teams at Assembly, Future Convenience, Plant Disaster Prevention and Standard Disaster Robotics Challenges after screening of the documents by the judging committee, which consists of robotics experts.

•Maximum amount of support grant per team※¹

Unit: 1000 yen

Category	Challenge	Travel Allowance※ ²		Accommodation cost※ ³	Transport cost of robots	
		International	Domestic		International	Domestic
Industrial Robotics	Assembly Challenge	500	100	250	400	100
Service Robotics	Partner Robot Challenge (Real Space)				—	—
	Partner Robot Challenge (Virtual Space)				—	—
	Future Convenience Store Challenge				400	100
Disaster Robotics	Plant Disaster Prevention Challenge				400	100
	Tunnel Disaster Response and Recovery Challenge				—	—
	Standard Disaster Robotics Challenge				400	100
Junior	School Robot Challenge				—	—
	Home Robot Challenge				—	—

※¹ The actual cost will be paid and it might be lower than the maximum amount.

※² Travel allowance: Return airfare, Shinkansen fare and express train charge in Japan.

※³ Hotel expenses during the stay in Japan

Call for Participation

- The registration for the participation is open at WRS website (<http://worldrobotsummit.org/en/>). The closing day is ※March 15, 2018 (February 28, 2018 for Disaster Robotics Category).
- ※ The closing day might be changed due to the numbers of applicants.

Exhibition (World Robot Expo 2018)



- WRE shall be a place to disseminate examples of robot introduction to the world toward the social implementation of robots on a global scale.

1. On-Site Exhibition

- In conjunction with the WRC, the WRE will show how the robots solve real social problems.
- The venue of WRE On-Site Exhibition is the same as WRC.

2. Study tour of the demonstration site

- The WRE will introduce the robots utilized in the local area in collaboration with the local governments who advance robot utilization. (Those local governments shall be approved to use the logo and so on by METI/NEDO as an organizer of WRS/WRE.)

Support Character

- As a result of public offering, Doraemon has been chosen as the support character for the World Robot Summit.



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Reasons for selection:

For the summit aiming to promote a world where robots and humans successfully live and work together, Doraemon was deemed to be the most appropriate character as a symbol of “cooperation”.

As a bridge between humans and robots, Doraemon will support this summit.

Sponsor

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As of January, 2018