

# **Summary of the World Robot Summit**

**December 2016**

**Ministry of Economy, Trade and Industry**

**New Energy and Industrial Technology Development Organization**

# 1. Goals

In accordance with the goals set in Japan's "New Robot Strategy" \* compiled in 2015, the World Robot Summit aims to

- accelerate the R&D and the social implementation of robots;
- bring together the most advanced robot technologies from all over the world and overcome the limits to solve challenges that arise; and
- deepen people's understanding of robots and to induce positive discussions that would lead to concrete uses and applications of robots.

\*[http://www.meti.go.jp/english/press/2015/0123\\_01.html](http://www.meti.go.jp/english/press/2015/0123_01.html)

## 2. Event Name



Event Name:

**World Robot Summit (WRS)**

**Competition: World Robot Challenge (WRC)**

**Industrial Robotics Category**

**Service Robotics Category**

**Disaster Robotics Category**

**Junior Category**

**Exhibition: World Robot Expo (WRE)**

### 3. Venue and Schedule

The preparatory World Robot Summit in 2018 will be held in Tokyo, and the World Robot Summit in 2020 will be held in Aichi Prefecture.

Some of the challenges under the Disaster Robotics Category that require special facilities such as plants and tunnels will be held at the Robot Testing Field located in Fukushima Prefecture.

#### World Robot Summit 2018

**Venue:** East Hall of Tokyo Big Sight located in Tokyo

**Schedule:** October 17 - 21 (Wed - Sun ), 2018 for 5 days

**\*Note:** It will be held alongside “Japan Robot Week.”

#### World Robot Summit 2020

**Main Venue:** Aichi International Exhibition Center  
(provisional name) located in Aichi Prefecture

**Schedule:** Early October 2020 for about a week

**\*Note:** WRS will be held alongside RoboCup Asia-Pacific  
Open (tentative).

Two of the challenges under the Disaster Robotics Category are scheduled as follows.

**Venue:** Robot Testing Field located in Fukushima Prefecture

**Schedule:** Mid-August 2020 for about 3 days

# 4. Challenges under World Robot Challenge (WRC)

A total of 7 challenges are planned to be held: 6 challenges under 3 categories and 1 junior challenge.

Category	Challenge	Venue	Participants	Challenge Summary	Evaluation Criteria
Industrial Robotics	Assembly	Aichi International Exhibition Center (provisional name) in Aichi Prefecture	Teams from universities, research institutes, companies, or other entities	Quick and accurate assembly of model products containing technical components required in assembling industrial products and other goods	Speed, accuracy, cost-effectiveness, contribution to energy saving rates, etc.
Service Robotics	A Typical Day at Home			Clean or tidy up rooms at homes and house-sitting	Achievement levels in overcoming challenges, level of human help needed, contribution to energy saving rates, etc.
	Automation of Retail Work			Shelf-stocking and replenishment of multiple types of products such as food, interaction with customers and staffs, and cleaning restrooms	Achievement levels in overcoming challenges, speed, quality of work (alignment, etc.), contribution to energy saving rates, etc.
Disaster Robotics	Plant Disaster Prevention	Robot Testing Field in Fukushima Prefecture		Inspecting or maintaining infrastructures based on set standards (e.g. opening/closing valves, exchanging consumable supplies) and searching for disaster victims	Achievement levels in overcoming challenges, quality of work, contribution to energy saving rates, etc.
	Tunnel Disaster Response and Recovery			Collecting information and providing emergency response in case of a tunnel disaster (e.g. life-saving, removing vehicles from tunnels)	Achievement levels in overcoming challenges, quality of work, contribution to energy saving rates, etc.
	Standard Disaster Robotics	Aichi International Exhibition Center (provisional name) in Aichi Prefecture		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	Achievement levels in overcoming challenges by performance, quality of work, etc.
Junior	Utilization of robots in schools and homes.		Teams of members aged 19 or younger	School: Making robots to complete tasks that might be useful in a school environment Home: Setting tasks equivalent to those in the service robotics category's home challenge and making robots that complete such tasks	Innovativeness, effectiveness, creativity, teamwork, etc.

Note: With regards to competition details in 2020, stated details are all present assumptions and the final details will be confirmed by about two years prior to the Main Competition referring to the progress of technology and the results of pre-competition which will be held in 2018.

## 5. Exhibitions under World Robot Expo (WRE)

World Robot Expo will take place in conjunction with World Robot Challenge and will showcase actual cases of implementations of robots to the world. By showing practical uses of robots, the Expo aims to accelerate the social implementation of robots on a global scale.

### 1) On-Site Exhibition

On-Site Exhibition will be held in the same venue as the competitions.

It will focus on the implementation of technologies relevant to the three competition categories.

### 2) Off-Site Exhibition

Off-Site Exhibitions will showcase advanced application of robots in local areas.

(Approved local exhibitors will be given privileges such as the use of the WRS logo.)