

2017 IARC Technology Readiness Level

2017 IARC Results

This video shows the Technology Readiness Level demonstrated at the 2017 International Aerial Robotics Competition (IARC). The aerial robotic behaviors demonstrated in this video represent the level to be reached and exceeded in 2018. Performance results for 2017 are listed below.

The top performing teams are those best showing the behaviors required in Mission 7. Ultimately, the prime discriminator will be those teams able to shepherd at least the minimum number of autonomous ground robots across the green boundary line in under 10 minutes while avoiding obstacles in a completely autonomous flight.

The top performing teams indicated below for each venue in 2017 consistently demonstrated the ability to (a) fly completely autonomously, (b) search the arena for ground robots, (c) actively avoid arena obstacles, (d) track ground robots, (e) descend to block path and reverse direction of ground robots, (f) actuate the ‘top touch’ switches, and (g) interact with multiple ground robots during a 10-minute run. Successful strategies observed: frequent interaction with as many ground robots as possible so that no robot leaves the green end of the arena without having been influenced to do so at some point and, a concerted effort to maximize the Static Judging score in order to gain the extra 4th attempt in the arena.

In the Performance Results shown below, the number of ground robots “touched” either by ‘top touch switch’ actuation or by ‘front bumper switch’ actuation is listed per attempt. Note that attempt No. 4 is the extra attempt awarded to the team receiving the highest static judging score in 2017 and blank attempts represent the use of a ‘pass’. The number of “touched” robots crossing the green end boundary line only accounts for those ground robots with which there was interaction by an aerial robot. Ground robots leaving the arena by the green boundary due to “luck” are not listed.

