

Special Issue

“Technology and Innovation in the Olympic and Paralympic Games Tokyo 2020”

Editorial Preface

The Olympic and Paralympic Games Tokyo 2020 (hereinafter referred to as “Tokyo 2020 Games”), which was held in Tokyo for the first time in 56 years, had been drawing intense attention not only from the sports industry but also from many industrial sectors since the decision was made in September 2013 to host the Games. The IEICE had also taken a keen interest in the Tokyo 2020 Games and published several special issues on this topic starting with the one brought out in December 2014. And now, with the full cooperation of the Tokyo Organising Committee of the Olympic and Paralympic Games (hereinafter referred to as “Organising Committee”), its partner companies, related organizations, and government agencies, we have published a special issue on the Tokyo 2020 Games, covering a wide range of technological achievements such as building communication network and information systems, and enhancing cyber security.

The Tokyo 2020 Games were not only the largest one ever held, with 33 Olympic sports, 22 Paralympic sports and 43 competition venues, but also the first ever in the history of the Games that was held after one-year postponement with strict infection control measures due to the unprecedented challenges of the global spread of the coronavirus disease 2019 (COVID-19) (coronavirus pandemic). In this sense, it was also a historical event that should be documented from the viewpoint that how people overcame difficulties by the use of information and communication technology for the success of the event. The followings are some typical achievements.

The event was participated with a large number of athletes, athletic association officials and other stakeholders who came to Japan from overseas, yet it is reported that no clusters of infection was caused by their visit. It is partly because digital tools and the network environment of the venue were fully utilized to collect the large amount of inspection information and to implement social distancing measures.

The International Olympic Committee announced that the number of Games audience via television and digital media was the largest in the history of the Games, while most of the venues were unfortunately closed to spectators. In order to secure the delivery of the Games’ contents for such audience, the relevant infrastructure technology must have been designed and operated with meticulous care and well-prepared system.

The Organising Committee and partner companies have carried out a variety of projects in which they utilized advanced technologies that could trigger social innovation in the future. These include the provision of a new experience of watching the Games using the combination of commercial 5G network and ultra-realistic communication technology, the use of hydrogen energy for the torch and translation vehicles, and the introduction of robots for the operation of the Games. Deliverables of these projects are considered to be a valuable step toward full-scale market introduction in the future.

The government and the Organising Committee reported that no cyber-attacks affecting the

Games operation were observed during the Games, even though there was a big concern of cyber-attacks targeting the Tokyo 2020 Games, which the media had covered extensively prior to the Games. It is easily assumed that unimaginable efforts were made behind the scenes.

Thanks to a great deal of wisdom and efforts of the Organising Committee and other related organizations, various insights and experiences have been gained through the processes introducing new technologies or taking innovation initiatives. This will surely become a valuable legacy for industries in order to enrich the lives of the society which has been dramatically changed after the coronavirus pandemic.

We really hope that this special issue will contribute to create such a valuable legacy.

