

# Precision on Every Level

An important factor in the development of Para sports has been the expertise of the Japanese manufacturing industry.

by **Jordan A. Y. Smith**

The roots of boccia (pronounced “botcha”) can be traced back thousands of years to Europe. However, its latest peripheral refinements were made here in Japan, with the Japanese Paralympic medal-winning teams of the Rio 2016 Paralympic Games and the Tokyo 2020 Paralympic Games benefiting from equipment produced by a Tokyo-based engineering and design company specializing in cases and containers.

Boccia was introduced at the New York 1984 Paralympic Games as a competitive sport. It is played on a flat court by individuals, pairs, or in teams of three. After the white target ball (the “jack” ball) is rolled, opposing players or teams roll their six blue or red balls toward it, with the team or individual getting closest to the jack ball being deemed the winner. In the Paralympics, athletes with severe cerebral palsy or other limb impairments roll or kick their balls, or they use ramps. Ramps are pieces of adjustable equipment that allow the player to funnel the ball on to the court and toward the jack ball at a specific incline.

The number of people playing boccia in Japan grew from around 100 at the time of the Rio 2016 Games to nearly 300 at the time of the Tokyo 2020. Japan was able to showcase its prowess at the Tokyo 2020 Games with a trio of medals: in the individual competition Sugi-



The boccia ball cases—specially designed by a Tokyo-based engineering and design company—gave the Japanese team a distinct advantage.

mura Hidetaka took home gold, with silver being earned in the pairs and bronze in the team competition.

While the athletes’ success is a testament to their skill and dedication, the company also played a significant supporting role in that success. Headquartered in Setagaya Ward, a leafy residential area in Tokyo, the company’s innovative and sturdy manufacturing has aided a variety of Para athletes, having previously produced protective cases for seats used in Para alpine skiing and Para canoe.

In the run-up to the Rio 2016 Games, the company received a request via the Japan Boccia Association to produce a special ball case for the Japanese boccia team. (Boccia

balls must be controllable down to the millimeter, and if the balls had sustained any damage on the way to Rio de Janeiro, it could have put the team’s chances for success in jeopardy.) The timeline was tight, and the company did not at that time have the ideal circular blades with which to carve the hemispherical indentations necessary to hold the balls snugly. Nevertheless, the fabrication team persevered, and within three weeks they were able to produce the necessary expanded polyethylene inlays that could be fitted inside one of their existing hard cases. For the Tokyo 2020 Games, the company was able



Boccia can be enjoyed by people with severe impairments and also across generations from kindergarten students to the elderly.

to refine their techniques and produce a space-saving case that was within the size limit for players to carry on to the boccia court themselves.

Boccia balls are made of leather and are susceptible to changes in atmospheric pressure, temperature, and humidity. They are especially vulnerable to the marked fluctuations in humidity caused by altitude changes on international flights, so a drying agent was placed inside the case. This protected them from absorbing moisture and increasing in weight beyond the strict competition limits.

The cases drew admiration from foreign athletes at the Rio 2016 Games. Also, the ace of the silver-winning 2016 team, Hirose Takayuki, even visited the factory to thank the fabrication team for their hard work.

As another topic related to the Tokyo 2020 Paralympic Games, the Tokyo Metropolitan Government (TMG) has also supported small- and medium-sized enterprises

and local communities that are working on the development of excellent technologies and products for Para sports. At the Games, Japanese Para athletes won medals using newly developed competition wheelchairs manufactured by these businesses. The TMG will continue to support the development of Para sports equipment produced by small- and medium-sized enterprises, as well as equipment that can be used by a wide range of people in their daily lives.

The Tokyo 2020 Games were a great opportunity to see the breadth of modern athletic competition. They also gave witness to the manufacturing team whose fabrication skills made the Japanese Paralympic team’s experience at the Games as smooth as possible. Such technical expertise will continue to elevate sports, as well as people’s lives, to new heights in the future.