

Curling Performance Improvement Support System
in Kitami City, Hokkaido

CURLING SUPPORT SYSTEM

Fight against the world
with cutting-edge technology.



CURLING SUPPORT SYSTEM

Sports Performance Improvement Support System

In collaboration with with Kitami Institute of Technology, a national university corporation

The advanced support system made for sport performance improvement at the Argo Graphics Kitami Curling Club is based on the results of the latest winter sports science research conducted at the Kitami Institute of Technology.

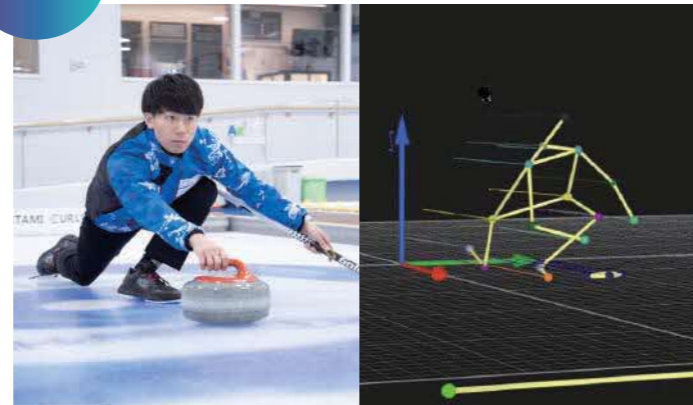
Each support system will provide national and international elite level athletes, as well as future competitors, with comprehensive support to improve their curling performance, including the development of training methods and tactics based on sports science.

01 Stone Tracking System



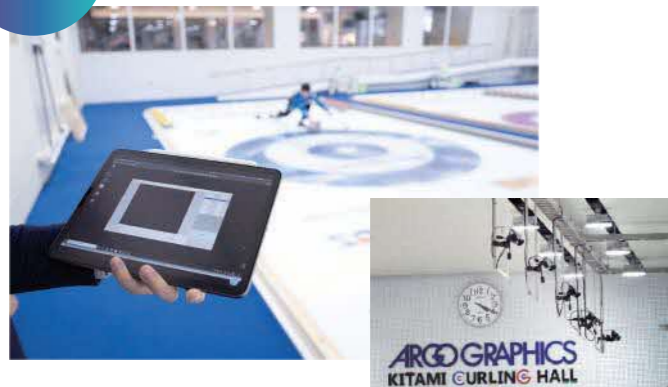
- The position of the moving stone is measured continuously using an infrared camera and infrared LED.
- Calibration is performed using an infrared LED module installed under the ice surface.
- The infrared LEDs installed on the stone are photographed by an infrared camera, and the position of the stone is calculated by image analysis to generate a trajectory.

02 Motion Capture System



- Markers are placed on the athlete and the stone, and a motion capture camera, placed above the sheet, measures the movement of the athlete and the stone.
- The measured data is analyzed by dedicated software to generate a 3D model of the target.

03 Image Analysis System



- Image captured by a visible light camera and artificial intelligence (AI) is analyzed to measure the athlete's movements and the position of the stones.
- The position of stone is analyzed by processing images using deep learning, extracting the stone image, and generating a trajectory based on the extracted data.
- By analyzing the measured images and processing feedback of the videos immediately, the competition information will be posted in real time.

04 Digital Scorebook System

- Match information is automatically recorded, such as shot accuracy, scores, shot types and trajectories.
- The digital scorebook "iCE" allows you to record, make into a database, and share the match information. This allows to visualize the results of simple analysis and trace the match results.



05 Foot Pressure Distribution Measurement System



- Foot pressure distribution during delivery is measured and automatically records via pressure sensor.
- It measures the strength and distribution of the kick during delivery and also the foot pressure distribution during sweeping.

06 AR / VR Simulation System

- Multiple shots of trajectory and information is projected on the HMD or smart glasses to present the optimal shot trajectory.



07 AI Simulation System

- The Tactical Inference AI will automatically post the appropriate tactics based on the progress of the match.
- The Tactical Inference AI learns from big data of the game in accordance with the digital curling system specifications.
- The digital curling system simulates matches between tactical AIs and is capable of performing inference using multiple algorithms. The match data is shared and used by the server.



08 Laser Measurement System



- Shot accuracy and speed are measured by radar radiation.
- A laser measurement system measures vertical shots, and a three-beam laser velocity meter measures horizontal shots.

09 Ice Surface Temperature Measurement System



- The temperature of the ice surface on the sheet is continuously being measured and any ice surface changes will be recorded.
- A low temperature data logger is used to periodically measure the temperature on the ice.
- Analysis software is used to analyze and visualize the temperature data received from the logger.

10 Athletic Motion Measurement System

- Athletic motions, such as sweeping and delivery, are measured.



How to Make a Reservation

STEP
01

Please contact us.

Call us or submit the contact form from our website to let us know which system you would like to use and when you would like to use it.

0157-57-6151
<https://kitami-curlinghall.info>



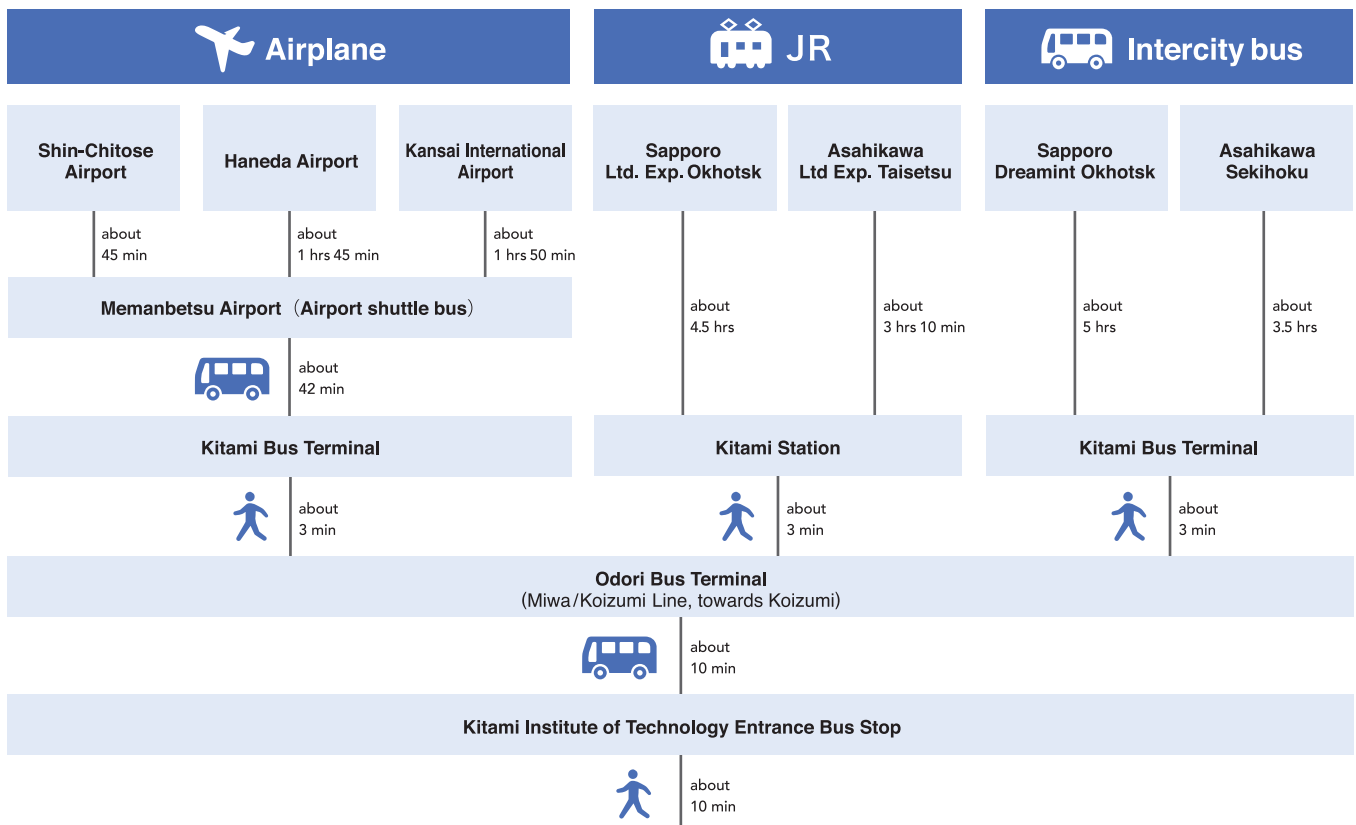
STEP
02

We will contact you.

Our club will contact you regarding the availability. If there are no changes, your reservation will be completed.

Please note and understand that we may not be able to meet your request due to system and operator availability.

ACCESS



Argo Graphics Kitami Curling Hall

ARGO GRAPHICS KITAMI CURLING HALL



Designated administrator
general incorporated association Curling Kitami

OPEN 10:00~22:00
CLOSE Tuesdays, the new year holidays
ADDRESS 603-14 Hakuyo-cho,
Kitami-shi, Hokkaido
TEL 0157-57-6151
FAX 0157-57-6152



This service is available by reservation only.
For more information please call or visit the website.

<https://kitami-curlinghall.info>

