Left: ODA Yuriko is a wheelchair user herself. She has been expanding her activities by cooperating with the central and local government's barrier-free initiatives based on the information gathered by WheeLog!.
Right: CHINO Wataru was involved in the development of the electronic control of electric vehicles (EVs) and automatic driving systems at Honda. Following an accident that involved a close relative, he began developing a tool to assist the visually impaired to walk.
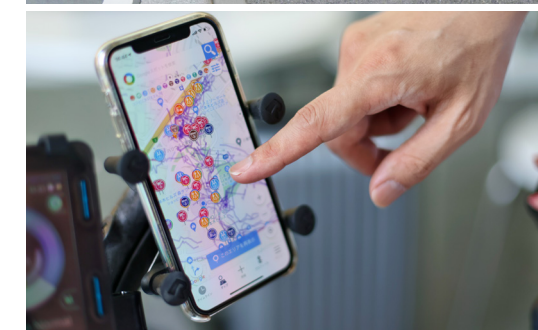
TECHNOLOGY BRINGS
THE JOY OF GOING OUT
TO PEOPLE WITH DISABILITIES

Barrier-free accessibility is crucial to realizing an inclusive society. In attempting to achieve that goal, innovative products and services are being launched one after another. How do their developers envision a barrier-free future?

One of the principles of the Sustainable Development Goals (SDGs) is to "Leave No One Behind." In Japan, where various efforts have been made to realize that principle, many products and services are being developed to help people with disabilities move around the city freely.

One of those is Ashirase, a navigation system for the visually impaired. Attached to the user's shoes and linked to a smartphone application, the small device instructs the user where to go via vibrations. A former engineer at Honda Motor Co., Ltd., CHINO Wataru founded Ashirase Inc.—the first venture company to emerge from Honda—to develop the system. He has also participated in demonstration tests using the Quasi-Zenith Satellite System (QZSS), an original Japanese satellite positioning system.

Through numerous interviews with the visually impaired, Chino learned that they live their lives by making full use of all their senses other than sight. The aim of Ashirase is thus to support visually-impaired people as they walk by providing navigation from their feet, without interfering with the use of their senses. By ensuring an environment where individuals can pay close attention to their surroundings, even visually-impaired people will be able to walk outside safely on their own.

Chino says, "Walking is the basis of mobility. I hope to support the independence of the visually impaired by providing them with the freedom and safety of walking using technology." He is developing the product rapidly for commercial launch in 2022, with an eye to eventually deploying it overseas.

In the same vein, WheeLog! is an application based on the experience of its developer, ODA Yuriko, who was diagnosed with the intractable disease of "distal myopathy" in her early 20s. It is the world's first app that uses maps to record and share the routes that users have taken with their wheelchairs, allowing other users to see wheelchair-accessible routes at a glance, even in cities they have never been to before. In addition, various types of barrier-free-related information, such as the location of wheelchair-accessible restrooms, elevators, and ramps, is collected through user posts to support wheelchair users in their active outings.

At the beginning of her wheelchair life, Oda thought it would no longer be possible to go out like she used to. However, when she later learned that there was a barrier-free beach near to her home, she realized the importance of sharing information broadly with everyone, which gave her the idea for the map app. "The barrier-free environment is rapidly improving in Japan, making it more important for everyone to gather information and use it together."

Oda has come to realize that even people with disabilities can help others by sharing information and having others use it through WheeLog!. She continues to take on the challenge of solving social issues using the power of information toward the realization of Goal 11 of the SDGs, Sustainable Cities and Communities.

One element of an inclusive society is an environment in which people with visual impairments and those in wheelchairs can go out on their own without having to give anything up. Aiming to realize such a society, the barrier-free movement is gaining momentum, driven by passion and innovative ideas. ●

Top: The WheeLog! workshop gets all participants to experience the city in a wheelchair. Not only does it provide an opportunity to survey the barrier-free situation, but it also helps able-bodied people understand what information wheelchair users need by showing them the latter's perspective.
Bottom: WheeLog!, which also has many able-bodied users, has become a tool for sharing barrier-free information with everyone, regardless of whether they have disabilities or not. The app is available in 10 different languages and can be used outside of Japan as well.
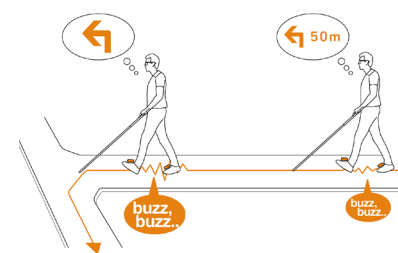
Top left: Ashirase is scheduled to be released at the end of 2022. The basic functions have been made simple to keep the price low, but there are plans to develop an array of optional functions, too.
Top right & Left: Ashirase uses location information from smartphones to determine users' routes. The device, with a built-in motion sensor and electronic compass, vibrates to guide the user to the destination.