

Remote Support for Multi-Function Device Maintenance with Smart Glasses

Ricoh Japan

Deploying Vuzix M400 Smart Glasses

Ricoh Japan, which handles maintenance of Ricoh's multi-function printers and other equipment, has started using Vuzix M400 smart glasses as part of its Maintenance Department's digital transformation program. On-site customer engineers receive remote support from veterans back at the service office, providing the benefits of their long experience and boosting service quality.



An engineer wears Vuzix M400 smart glasses at a customer facility, providing multi-function device maintenance with remote support from the branch office (posed photo)

Remote technology to reach SDGs

- 4 QUALITY EDUCATION** Quality Education. Remote education is used at Ricoh Japan, delivering uniform, high quality instruction to people living in remote areas
- 8 DECENT WORK AND ECONOMIC GROWTH** Decent Work and Economic Growth. Remote tools to allow employees to achieve high productivity. Remote environments allow people with the skill and commitment to continue to work even when health or life events make it difficult
- 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE** Industry, Innovation and Infrastructure. Remote technology makes it possible for trained engineers to find solutions to customer problems even at remote sites
- 10 REDUCED INEQUALITIES** Reduced Inequalities. Visual support through remote technology helps eliminate inequalities in support provision
- 11 SUSTAINABLE CITIES AND COMMUNITIES** Sustainable Cities and Communities. Remote tools support teleworking, helping eliminate inequalities between urban and rural regions, and contribute to the creation of communities with long-term residence
- 13 CLIMATE ACTION** Climate Action. Reduced number of service calls and remote maintenance minimize CO₂ emissions from travel, contributing to the realization of a low-carbon society and addressing climate change

Smart glasses: part of the transition to digital maintenance technology

Many manufacturing and service companies are facing difficulty hiring new people and passing on the skills and know-how of veterans to the new generation. Ricoh Japan Corp., which handles the sales and maintenance of multi-function devices and printers manufactured by parent firm Ricoh Co., Ltd., is one such company.

"We've also had problems with hiring new people, and aging veterans, and as a partial solution we began using remote support a few years ago, utilizing digital technology to make it possible for veteran servicemen to support

younger ones. From May 2021, we began deploying smart glasses," explains Shimmyozu who is involved in the remote support project.

There are about 4,600 customer engineers (CE) working at 431 service offices nationwide, visiting customers regularly (or when called) to service multi-function machines. Relatively inexperienced CEs now take Vuzix M400 smart glasses with them.

If the CE can handle the problem at hand by themselves there is no need for the smart glasses. However for more difficult issues and errors new to the CE, such as output getting smudged for an unknown reason, the Vuzix M400 smart glasses connect to the service office via a mobile router,

and the CE uses the camera and microphone to collaborate on the problem with a remote expert. The more experienced engineer at the office suggests possible causes and solutions based on the imagery and explanation, and uses audio and video to tell the CE what to do (photo).

This approach allows experienced veterans to share their knowledge with inexperienced CEs, training them while simultaneously reducing the time it takes to resolve the customer's problem. According to Ricoh Japan's Suzuno a former CE himself, "It's just like they're standing right behind me, telling me how to handle it, like a sort of tool to enhance CE capabilities. It would be possible to get similar support with a smart phone, but with smart glasses both your hands are free."

New security guidelines for on-site use

Vuzix, headquartered in New York state, specializes in smart glasses manufacturing. Established in 1997, it has been a leader in the industry for 25 years.

The Vuzix M400 is the firm's main design, equipped with an expansive Organic Light Emitting Diode (OLED)

display, 12.8-megapixel auto-focus camera, internal speakers, microphone, 3 gyrosensors, acceleration sensor, Wi-Fi, and Bluetooth audio. It runs on the Android OS. Applications include third-party augmented reality and remote support software, as well as a dedicated Zoom (fee-based) subscription.

"When we were evaluating various smart glasses we looked at camera and display resolution, of course, but also how well they worked with major remote support software. Vuzix M400 smart glasses let you look at your work with both eyes, by lifting the display up, and Bluetooth earphones prevent guidance from the veteran at the remote office being heard in the customer's office. We liked those features, and the fact that it's proven itself overseas already. The stylish design was another plus," says Suzuno, part of the selection team.



Mr. Fujii Keiichiro
Director of
Operations Japan
Vuzix Corporation

Customer permission must be obtained before the camera and microphone can be used, however. Tokai, involved in handling on-site operations, explains that the firm has "drawn up guidelines covering privacy and security. We make sure that our CEs follow them, and get permission from customers in advance."

Customer evaluations have been excellent so far, buoyed by the firm's stance. "Many customers appreciate that we're using advanced tools, and that contributes to a better corporate image. And since the smart glasses are very obvious, there's no worry about anyone thinking we're sneaking photos," adds Tokai.

Resolving even difficult problems faster for improved service quality

Shimmyozu believes that the adoption of smart glasses is significant from the perspective of the Sustainable Development Goals (SDG) at the core of corporate management, such as providing training for inexperienced CEs (SDG 4), providing opportunities for even aged or disabled engineers to provide remote support (SDG 8), innovative technologies (SDG 9), and reducing CO₂ emissions by adding

virtual support (SDG 13), as shown in the table.

Company management is driving the adoption of digital technology with operations, aiming for a digital transformation of maintenance technology. As Shimmyozu points out, "We only have a few dozen M400 smart glasses at present, but we plan to equip every young CE with one and further improve service quality." The program is already starting to have effect, with on-site service times being cut by hours in some cases. Since veteran engineers no longer have to accompany less experienced CEs, it is possible to reduce the number of people making on-site visits — a key differentiator when minimizing COVID contagion is crucial.

Vuzix smart glasses address a number of problems companies face today, including training young employees, and sharing the knowledge and skills of veterans in active service.

Inquiry for
Vuzix M400 smart glasses

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