

# Augmented Reality Solutions for Enterprises



Youbiquo Talens Holo

## Case Study Highlights

- Background:** Youbiquo designs augmented reality smart glasses for various use cases with a focus on industry-specific applications. They recognize that smart glasses have potential to address the needs of the maintenance industry where technicians rely on computers and mobile devices to help perform their jobs.
- Solution:** With their skills and help from third parties such as Lantronix (formerly Intrinsyc), Youbiquo created the Talens Holo Augmented Reality Smart Glasses to give maintenance technicians a powerful tool to improve the speed and quality of their work.
- Results:** By taking advantage of technology from Lantronix and Qualcomm Technologies, Inc. (QTI), Youbiquo is able to develop and fine-tune their own technology at a rapid pace, resulting in advanced products like the Talens Holo which have much to offer the maintenance industry.

## Introduction: Enhancing performance with smart glasses

Youbiquo designs wearable electronics and IoT devices. Using their skills in software development as well as electrical and mechanical design, they have developed augmented reality smart glasses for a variety of use cases including industrial maintenance, logistics, and museum tours. They have worked with universities, research centers, and large tech companies, and are involved in research and development projects funded by the EU, Italian Ministry of Industry, Italian Ministry of Research, and Campania Region.

Youbiquo has focused much of its attention on the maintenance industry, in which technicians performing various tasks are often slowed down by the need to use their computer or mobile device. Whether it is to look up support documentation, contact off-site experts, or log relevant data, interrupting their progress by switching their attention between the task and their computer or mobile device is inconvenient, unsafe, and time-consuming.

Augmented reality smart glasses are the perfect tool to address this problem because they simultaneously bring both the technician's task and computer into their field of vision. Unfortunately there are not many options for industry-oriented smart glasses, and ones that are available often come with bulky, heavy lenses with a narrow field of vision. This puts Youbiquo in a unique position to contribute to this field.

## Solution: Personal assistance right in front of the eyes

To address the needs of manufacturing enterprises, Youbiquo created the Talens Holo, a wearable augmented reality smart glasses product. It comes with binocular vision, a high-resolution camera, and other sensors. The maintenance technician turns it on by simply holding their finger to the fingerprint sensor for a secure authentication. Once on, the Talens Holo provides the technician with a variety of tools to assist them with their task. The technician can easily bring maintenance procedures and other support documentation directly into their field of vision. Its object recognition capabilities aid the technician in identifying equipment parts, reducing the need to consult external sources. If the technician requires further assistance, they can use the smart glasses to perform a video conference in which their field of vision is streamed to a remote expert and simultaneously, objects in the field of view are detected and recognized by an AI algorithm. To document their status and progress, they can conveniently take pictures and record data to remote databases.

Youbiquo has worked with several third parties to incorporate various hardware components and software libraries into the Talens Holo. One such third party is Lantronix, an innovator in product development services and edge computing modules. The Talens Holo uses a Lantronix System-on-Module (SOM), which runs on a Qualcomm Technologies processor.

Youbiquo fills a gap in the market of augmented reality smart glasses. Whether it's a smaller enterprise in need of one of their standard models or a larger enterprise in need of a more customized one, the Talens Holo offers tremendous potential for the maintenance industry and more.

## Growth through rigorous customization

Youbiquo's value proposition is based on customization. They collaborate with large enterprises to develop advanced releases of their products that they have tailored precisely to the individual needs of the customer, resulting in highly advanced end products. For this reason, it is important for Youbiquo to be able to develop their products quickly to allow opportunity for fine-tuning and implementation of the more nuanced features required. Lantronix's SOM solutions prove valuable in this regard as they accelerate Youbiquo's process of getting their products out to the market and ready for customization.

In addition to the highly customized versions of the Talens Holo, Youbiquo offers standard models that already meet the needs of many of their clients. The Talens Holo Industry release is a standard model designed for complex manufacturing processes. It is built with Lantronix's [Open-Q™ 626 μSOM](#), integrated with the [Qualcomm® APQ8053Pro SoC](#) and chosen for its cost, processing power, heat dissipation, and a variety of built-in software including 3D rendering, computer vision, and natural language processing. Meanwhile, the Talens Holo LEA release is an upcoming standard model designed for law enforcement. It is planned to be built with a Lantronix [Open-Q™ 865 SOM](#) integrated with the Qualcomm® SXR2130P SoC, chosen for its 5G connectivity, small footprint, and higher performance to support a wider lens display, pupil detection sensor, thermal camera, and machine learning algorithms for hand gesture and object detection features.

## Results: The maintenance technician's latest gadget

By taking advantage of Lantronix and QTI's technology, Youbiquo is able to develop and fine-tune their own technology at a rapid pace, resulting in the Talens Holo Augmented Reality Smart Glasses with its impressive array of benefits.

- Security: Securely activate the smart glasses and log in to the enterprise's system using fingerprint authentication.
- Object recognition: Use artificial intelligence to identify equipment and its components.
- Communication: Contact off-site experts for help and stream the wearer's camera feed to them, providing the next best thing to having the expert there in person.
- Convenience: Bring support documentation and other resources directly into the wearer's field of vision, minimizing the need to take their attention away from the task at hand.
- Customization: Take advantage of Youbiquo's ability to customize their technology precisely for a particular use case.

## About Youbiquo

- **Company Name:** Youbiquo
- **Description:** Youbiquo designs, develops, and produces devices for enterprises who want to benefit from Augmented Reality and Artificial Intelligence wearable electronics in the Industry 4.0 environment.
- **Headquarters:** Cava De'Tirreni (SA), Italy
- **Website:** [www.youbiquo.eu](http://www.youbiquo.eu)



## About Lantronix

- **Company Name:** Lantronix
- **Description:** Lantronix is a global provider of hardware and software solutions for the Internet of Things (IoT) and Out of Band Management (OOBM).
- **Headquarters:** Irvine, California
- **Website:** [www.lantronix.com](http://www.lantronix.com)



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