



CASE STUDY

WORLD'S LEADING AUTOMOTIVE MANUFACTURER REDUCED ERROR DUE TO AN AUGMENTED & CONNECTED WORKFORCE



OVERVIEW

The **Connected Worker** has been known as an Industrial booster for a long time now. Nowadays, we are witnessing a change in the industry, where only 13% of workers reported that they do not use digital devices in daily work activities (Deloitte, 2018). It is predicted that in 10 years, approximately, most jobs will be automated.

But what will happen with jobs that can not be automated? That's why the **Augmented Worker has emerged**. The concept defines workers that have their skills increased through the use of emerging technologies, such as **Augmented Reality**. Combined with the connected worker, the Industry is reaching out to an extra skilled worker, able to do any task without training or help.



Global Manufacturer of Commercial Vehicles

One of the world's largest commercial vehicle manufacturers, with tens of primary locations globally and tens of thousands of employees. This innovative group has a production volume of hundreds of thousands of units per year. Lastly, its portfolio boosts different brands of buses and heavy, medium, and light-size trucks, with combustion, hybrid, and electric engines.

CHALLENGE

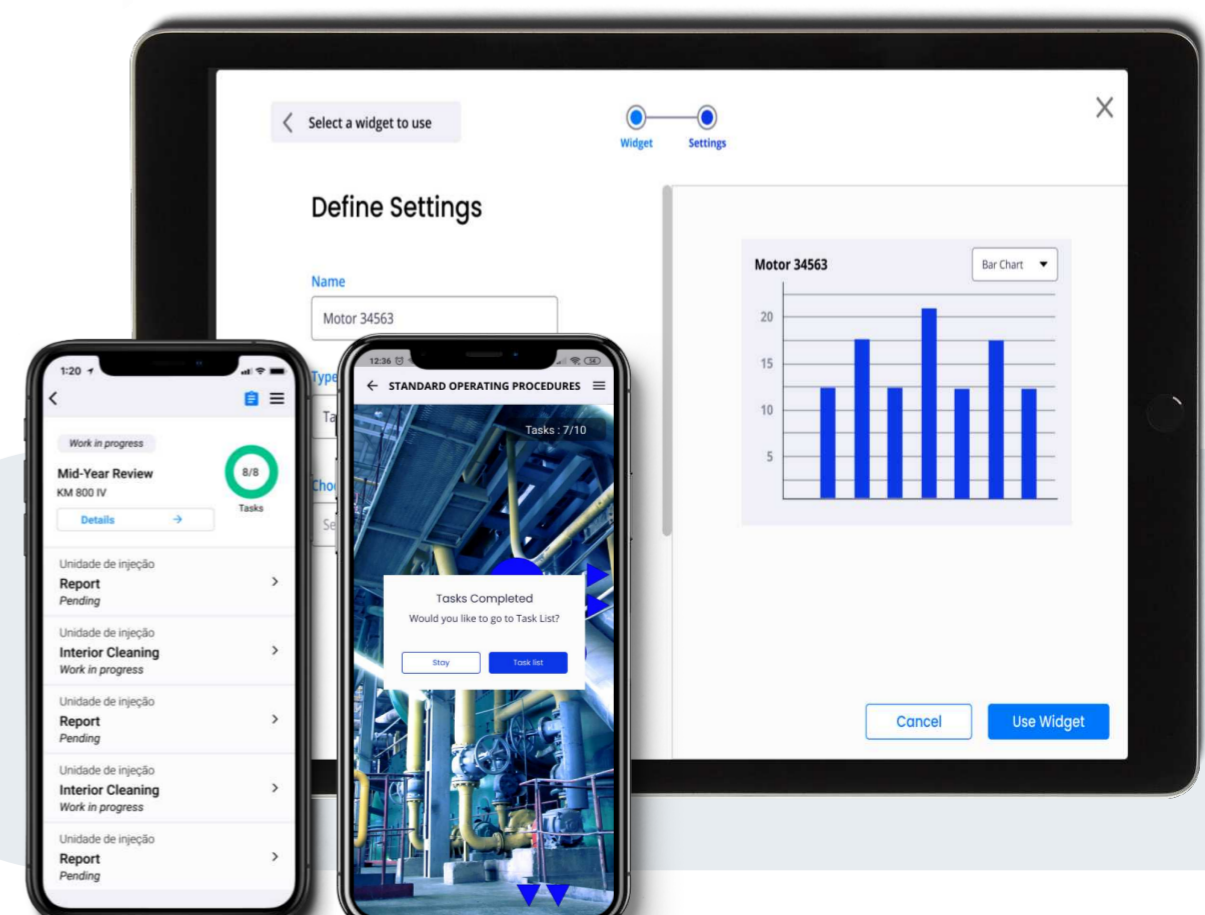
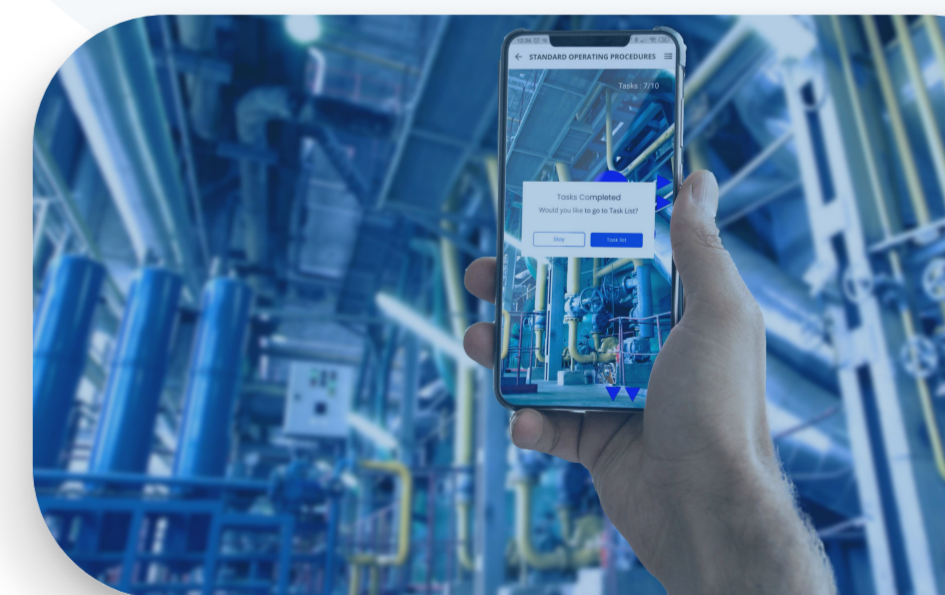
The manufacturer designed and managed **Standard Operating Procedures (SOPs)** in traditional IT tools. These were then printed and made available on the shop floor for operators to check the work instructions and to monitor the production. This old fashioned way of working was proving to be very costly:

- **Inefficient planning and production**
Complex and slow creation and change management process (e.g., new vehicles or production volumes)
- **Frequent and avoidable production errors**
Shop floor operators made mistakes due to poor communication or misunderstood changes
- **Lengthy training**
Required traditional training in a room and lengthy on-the-job shadowing to bring operators up to speed

SOLUTION

The company was provided with **GlarVision** product to digitize **Standard Operating Procedures (SOPs)**, with **Augmented Reality (AR)** support. GlarVision combines the **Augmented and the Connected worker** to ensure that operations are more efficient and safe. By digitizing the Standard Operating Procedures (SOPs), workers started to access the checklist on their devices in real-time. And, through Augmented Reality guidance, they were guided throughout the whole process. The solution included:

- 1 **Desktop interface to create SOPs**
This is based on the vehicle model/variant and available operators, with configurable workflows, steps, and media support (e.g., images and videos).
- 2 **Monitoring and management capabilities**
Aggregated information, alerts, dashboards, automated reports to help with decision making and advanced capabilities to react quickly to changes (e.g., Spaghetti Diagrams and Yamazumi).
- 3 **Mobile app and station screen**
Operators have a mobility app and a screen on each assembly station to see work instructions related to each vehicle, to confirm critical actions and to input data relevant to monitor the production.
- 4 **Augmented Reality training**
Operators can use out-of-the-box AR mode to help them execute the tasks on the assembly line and for faster and autonomous training.



RESULTS

The manufacturer migrated the **Standard Operating Procedures (SOPs)** with assembly work instructions to GlarVision. As a result, the manufacturer was able to streamline the creation and management of SOPs, improved shop floor communication and reduce training cost. Besides **reducing the error rate to 0%**, the company managed to:



5X

Faster planning and reaction time

Engineering team creates and modifies assembly instructions easily and planning team can quickly change production plan.



5%

Increased production and quality time

Engineering team creates and modifies assembly instructions easily and planning team can quickly change production plan.



100%

Paper-free

All printed paper on the shopfloor related with work instructions and checklists disappeared.



2X

Faster training

Augmented Reality instructions reduced training and shadowing time and costs.



NEXT STEPS

GlarVision is being considered by other teams and in other parts of the plants, to digitize and manage maintenance, quality and supply chain management tasks. In addition, the GlarAssist **Visual Remote Assistance capability** connects remote employees and vendors to help solve problems faster.

GlarVision helped us increase our overall efficiency and quality KPIs. Digitizing our SOPs on the platform allowed us to quickly perform updates and react to changes, which were promptly communicated to the shop floor. The Augmented Reality support is a useful capability to help train our operators.

ABOUT US

Glartek, founded in 2017, is a leader in Augmented Reality (AR) solutions for the Manufacturing and Asset Intensive Industries and our mission is to increase the efficiency and safety of operational processes. Our software solutions combine the AR and Internet of Things domains to bring visibility, optimization, and reassurance to field operations. Glartek has offices in Lisbon and Leiria, Portugal, has very large customers such as EDP and Renault, and has raised over €1.5M in venture capital.

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