

## CASE STUDY

# Enterprise Augmented Reality improves manufacturing efficiency

Our customer is a global leader in heavy machinery and industrial equipment with 11,000 employees worldwide and a turnover of over 2 billion euro. Every day, billions of people come into contact with their technologies through consumer goods, mobility or communication.

With a strong sustainability and digitalization agenda, this manufacturing company is focused on making meaningful impact for customers, employees, partners and the environment, but they faced two main challenges.

On one hand, the high cost involved in maintenance and repair services. They often needed to fly highly qualified resources to customers' premises, thus travel and accommodation costs were a permanent concern. Machine breakdown and downtimes also came at a high cost, with over 80 production hours lost per year. They also found that 52% of downtime was operator-related. Operators would often choose non-optimal ways of resolving issues, which could be fixed almost instantly with the right instruction.

On the other hand, customers struggled to visualize and understand their complex die casting machinery.

## THE CHALLENGE

- Reduce cost of maintenance and assistance
- Improve customer satisfaction and service levels
- Implement innovative after-sales experience

Traditional sales methods were ineffective to convey the unique quality and technical innovations of this manufacturer's technologies. The impracticality of transporting the large-scale machinery to meetings or trade shows made it impossible to get hands-on with their products. This slowed down the sales process or even prevented sales teams from closing deals after investing a significant amount of time and effort into them.

Soon, our customer realized that, to reinforce their position as a premium supplier, they needed to find alternative ways to help their customers reduce downtime and optimize the operation of their production plants. With recent trends in manufacturing pointing towards the benefits of Augmented Reality (AR) and industry 4.0, they were looking to explore what these technologies could offer to solve their challenges.

# THE SOLUTION

AMPLEXOR and RE'FLEKT emerged as the right partners to test the introduction of AR technologies for our manufacturing customer. Our unmatched expertise in technical content for the manufacturing industry together with the ground-breaking REFLEKT ONE content creation platform were just what they needed to get started.

Our vision for the project was to equip the company with a solution to easily create AR applications in-house for their entire product line. The first challenge was an AR application for their die casting machines that would allow to explore and understand all the core features through interactive 3D models and instructions.

This app helped to remove the complexity of sales presentations and tested the viability of a full line-up of AR customer services, such as interactive maintenance guides and specialized training.

The first release was immediately available for both customer and sales team roll outs. This allowed to build the initial concept and remain scalable for more features and scenarios for the future.

## PROJECT LIFECYCLE



## A SCALABLE AR FOUNDATION



Our partnership with AMPLEXOR and RE'FLEKT was the strongest and most sustainable combination on the market. They were able to deliver the complete picture of our die casting machine with all main components, exploded views and animated maintenance processes just within 5 weeks!

### Product Manager Die Casting

Leading manufacturing company

## THE RESULT

**An all-in-one solution for showroom, maintenance, helpline and training center** on smartphones, tablets and AR smart glasses

### SHOWROOM

✔ **More engaging demonstrations and higher customer confidence in purchasing processes**

With its interactive showroom, the AR app gives a whole new dynamic to marketing and sales demonstrations. Customers are now able to see, interact and walk around the machines as a hologram, without having to travel to supplier showrooms or production halls. They can access exploded views, as well as animations of how individual components work and get an insight into parts of the machine that were previously inaccessible. This gives customers a better understanding of how their machines will integrate into their existing environment.



### MAINTENANCE

✔ **Reduction of time for standard maintenance procedures by 30%**

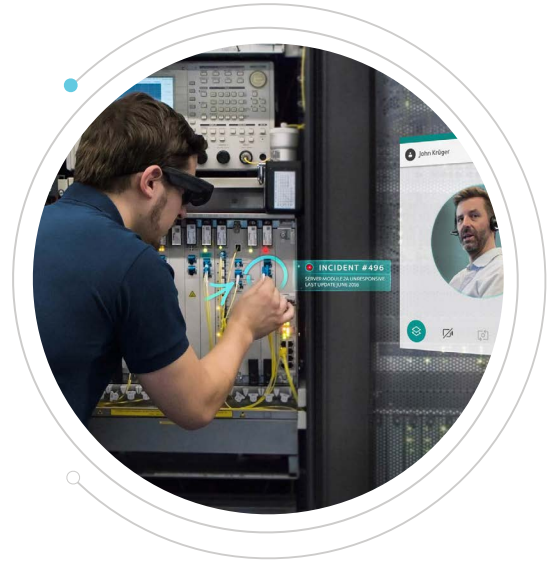
Another remarkable change was on assistance and maintenance services, with the innovative AR self-support. Using smart glasses and tablets, on-site technicians can view step-by-step maintenance instructions directly on the machine, completely hands-free. This allows less experienced staff to perform complex operations, while reducing services' error rate. As an add-on, the AR maintenance guides are directly connected with the spare part ordering portal, so that technicians can order replacement parts on the spot, in the same repair environment.



## HELPLINE

- ✔ **Reduction of unplanned downtimes by up to 60% and 8 days (50h) more production time per year**

The live-video remote assistance is a pioneering step for after-sales support. When service assistance is contacted, experts can connect directly to on-site technicians' fields of vision and overlay direct instructions, annotations or relevant documents. This has an immediate result on faster and higher-quality repairs, reducing machinery downtime and travel costs. The AR app includes an incident management system with built-in call features and integration with CRM. This ensures all incoming requests are centralized and follow the existing workflow.



## AR TRAINING CENTER

- ✔ **72% faster learning curve and lower training costs**

One of AR's main value propositions for manufacturers is the replacement of traditional manuals by hands-on learning experiences. Through the use of smart glasses, trainees can immerse into the world of complex machinery, while interacting with its instructions and other support documentation. The AR representation substitutes the physical machine and is complemented by the superimposed content. This allows independent learning directly in the context of the virtual machine, without location or time limitations. For example, training to operate a lift machine, which would take 14 days on-site, can be reduced to 3 or 4 days.



Combining the real world with the augmented reality world means assisting customers as if they were on-site, on their machines, showing drawings, videos, schemes, etc and assisting them in the maintenance and repair processes.



**Marc Haarmeier**  
AMPLEXOR

# THE SOLUTION

## State-of-the-art AR customer services

The digitalized world is very much the "new normal". By embedding AR in their service portfolio, our customer has positioned itself center stage, combining customer success and sustainability. They successfully tested the simplicity of creating their own in-house AR applications with the data and skills at hand. The positive sales ROI established the groundwork to immediately scale up their services for a complete range of AR customer services.

Using a multifunctional AR app, customers can now easily explore and understand each core feature of the manufacturer's equipment.

Digitally placing the oversized machinery directly into their environment, they can interact with 3D models and documentation. The AR applications also features complete repair and maintenance scenarios that empower customers with state-of-the-art AR services to maintain and repair products on their own, at lower costs.

Our customer is already planning the expansion of AR content as standard to other business areas and studying the integration with Internet of Things technology to improve connectivity, productivity and efficiency across the group.

AR solutions are a clear opportunity for manufacturing companies to improve their daily workflows amongst multiple departments as well as their customer experience. We are looking forward to see how this manufacturer chooses to scale up with AR on their own.



**Wolfgang Stelzle**  
CEO, RE'FLEKT

## ABOUT AMPLEXOR

AMPLEXOR is a leading partner for global compliance, digital experience and content solutions. Established in 23 countries with more than 1,850 employees across three continents we deliver innovative solutions to tackle content-based challenges in the fields of aerospace and defense, automotive and manufacturing, consumer products, retail and distribution, energy and environment, finance, life sciences and the public sector.

### Our partner RE'FLEKT

RE'FLEKT is a Munich based technology company that enables any business or industry to create scalable Augmented and Mixed Reality applications. Since its founding in 2012, RE'FLEKT has grown to a team of over 60 employees in Munich and San Francisco and is recommended by leading analysts including ABI Research and Gartner (Gartner Cool Vendor).

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EMBRACE THE FUTURE

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