

USE CASE

Plant Production Monitoring System

Aegex + Virtualware Solution Serves Spanish Drill Bit Manufacturer



Situation

The term Industry 4.0 or Smart Manufacturing covers many areas, but the first advances have involved the incorporation of greater flexibility and customization in manufacturing processes. And this is why the development of powerful solutions for the analysis and management of big data is a determining factor for organizations.

Among these solutions, a great example is the one described in the present Use Case: A plant production monitoring system developed by [Virtualware](#) for the company **Izar Cutting Tools** in collaboration with **Solmicro** utilizing the **Aegex10 Intrinsically Safe Tablet**.

- [Izar Cutting Tools](#), an international manufacturer of drill bits and milling cutters for HSS and Hard Metal, requires an advanced visualization and interaction system for production monitoring in its plant that allows production managers to visualize information from their management system Xpertis to make decisions in real time. The objective is to develop a

cyber-physical system composed of an information analysis module related to the production process and an advanced visualization module through Virtual and Augmented Reality that aids in the understanding of analytical information.

- Izar Cutting Tools has more than 65,000 products, a figure that complicates its data management and maintenance. Each day the plant can manage between 1,200 and 1,400 production orders for certain quantities, characteristics, deadlines, etc., which implies an immense amount of information that must be analyzed and standardized.

Solution

To analyze and standardize production orders, this pioneering Industry 4.0 project consists of four phases:

1. Analysis of information sources, building a big data model with OEE (Overall Equipment Efficiency) data from manufacturing data linked to the current ERP and MES system

2. Modeling and 3D virtual representation of the factory and production machines with up to 16 models of their Schneeberger and Rollomatic machines. An interactive three-dimensional re-creation that models with a high level of detail the industrial layout and allows intuitive access to all information stored in the management system through virtual and augmented reality.



3. Integration Module Analysis and Visualization Module: This system allows the visualization of data related to the traceability of manufacturing orders with indicators related to the manufacturing process (OEE), as well as other relevant processes.

4. Integration of the Augmented Reality Module is designed to represent data in a format that allows operators to choose how they want to view it, such as on [Aegex intrinsically safe tablets](#) or Microsoft Hololens helmets.



Results

[Virtualware](#) developed an advanced visualization and interaction system that monitors production and enables production managers to visualize data from its Xpertis information management system in order to make more better decisions in real time. The Virtualware system integrates with Xpertis ERP, which is provided by Solmicro.

VIRTUALWARE

With Aegex Technologies' Aegex10 IS Tablets, the Xpertis information can be viewed by personnel anywhere in the most explosive zones of the plant. The Windows 10 Aegex tablets are globally certified intrinsically safe, meaning they will not cause a spark that could ignite an explosion in combustible atmospheres. They are certified for ATEX and IECEx Zone 1 and UL Class I, II, III Division 1 hazardous areas. With real-time information at their fingertips via the tablet, Izar managers can immediately view order statuses, access reporting, and respond to problems quickly while onsite.



The result is a system that efficiently manages production orders in real time, which is fundamental for ensuring the product reaches the warehouse or customer at the right time.

See a video of the solution [here](#). Visit [Virtualware](#), [Aegex](#) and [Izar](#) for more information.