

# Plant Production Monitoring System

Aegex + Virtualware Solution Serves Spanish Drill Bit Manufacturer



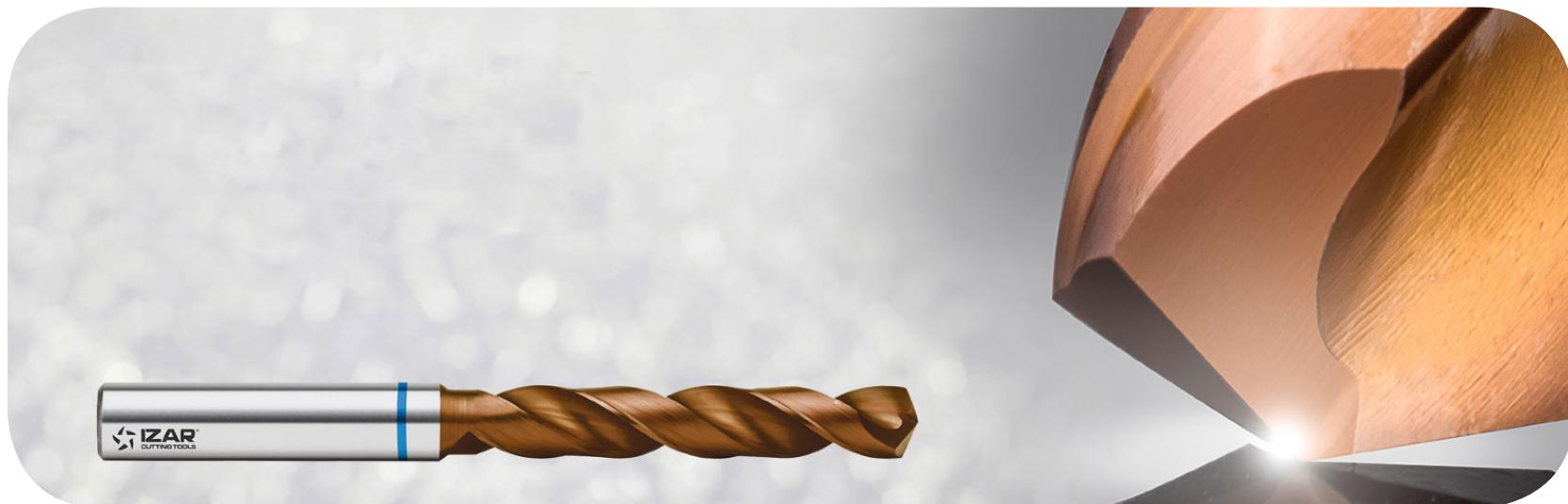
# Situation

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.

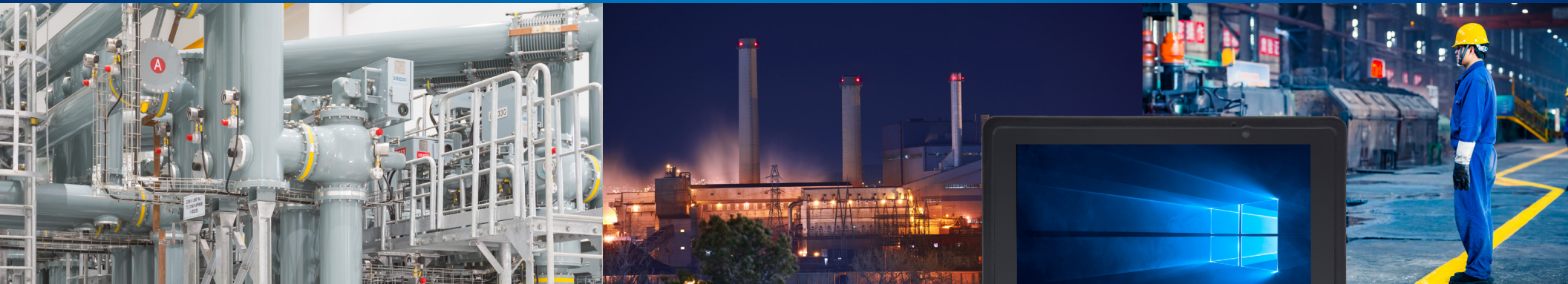


# Solution

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.**

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 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.

**Contact Aegex or Virtualware to learn more.**



**About Virtualware**

Virtualware is an innovative and technological company that specializes in the development of Hardware and Software solutions based on Immersive and Interactive technologies. We offer high-tech value-added solutions, products and services through our offices in the United Kingdom, Spain and Latin America as well as through our partners around the world. Virtualware is made up of a multidisciplinary team of highly qualified professionals working together to create truly interactive experiences.

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**About Aegex:** A technology engineering and design company that provides intrinsically safe Industrial Internet of Things (IIoT) and mobile solutions for hazardous industries. Our globally certified intrinsically safe Windows 10 tablet, sensors and partner monitoring systems, form an IoT platform that manages big data to improve efficiency, safety and productivity in hazardous industrial environments in oil & gas, chemical, pharmaceutical, utilities, public safety, defense and other industries with potentially explosive atmospheres.

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