



Success Story

Zyxel Nebula Solution Delivers Reliable WiFi in Every Nook and Corner to Polish Smart Warehouse



INDUSTRY
Industrial
machinery
components



CUSTOMER
Diesel Części



COUNTRY

Poland



SOLUTION

Zyxel
Nebula
Solution

Overview

Challenges

- Needed to cover a large space with wireless network for smooth operations
- Had to deal with the large number of metallic components in the warehouse that could reflect radio waves
- Needed ease of management from a single point for the customer

Results

- Comprehensive wireless network coverage throughout the warehouse
- Stable connectivity in every part of the building without any black spots
- User-friendly remote management and configuration of wireless access points and switches that increases convenience

Solution

- Zyxel Nebula Solution

"The coordination and optimization of all processes in our warehouse is supported by computers and mobile devices in constant communication. That's why we need a reliable WiFi network. The implemented solution works perfectly well. The significant advantage is that both the access points and the switch are conveniently managed from one system. Additionally, it enables supervision over the WiFi network from any location."

Robert Wołodko
General Manager, Diesel Części

Background

Diesel Części is a major seller and distributor of engine parts for construction and agricultural machinery in Poland. At the company's new 1000 square meter-sized warehouse, employees needed to use mobile data collectors using WLAN. This meant that the entire area of the warehouse had to have a robust wireless network. They needed to find a partner to provide a reliable and easy-to-use networking solution to ensure operational stability.



Challenges

As with all warehouses, the major challenge was the building size and ensuring not even an inch of the property is without coverage. The mobile data collectors, computers, and any other relevant devices installed at packing stations would all need to use the network infrastructure. A key point for the client was the implementation of an ERP class system with a dedicated application.

The environment posed several challenges too. For instance, metal elements were high in the warehouse because there are many pallet racks and multi-level general cargo racks for storing motors and their mechanical parts, as well as other components. Metal can reflect radio waves and consequently interfere with wireless communication.

Solutions and Benefits

Zyxel specialists performed a simulation based on the warehouse space plans to estimate the number and placement of access points. They prepared a project according to which the company, Diesel Części, made cables for the WiFi devices on its own. T2S, the company's partner for the project, took care of the installation, software implementation, and device configuration. A total of 20 access points were installed at precisely measured locations on the ceiling and walls. A PoE switch supplies signal and power to them. The Zyxel Nebula platform was used to manage all these devices.

When used with Nebula, Diesel Części can centrally manage, access real-time network information from and gain effortless control over Nebula-supported devices. The streamlined installation and control allowed the company to monitor and manage the network easily and remotely from anywhere. Meeting the 802.11ac standard for rapid WiFi speeds, Zyxel **NWA1123-AC HD 802.11ac Wave2 Dual-Radio PoE Access Points** were deployed to provide fast and seamless WiFi to users. Built with a high-power amplifier, anti-noise shielding, and a host of features such as dynamic channel selection and

load balancing, the APs can deliver an optimized wireless experience that increases coverage and ensures smooth connection. The network provides radio coverage for the entire warehouse area covering even the hard-to-reach areas with ease. The required signal strength was obtained with a value of -65dBm or more. After installation, a reliable internet connection allows all warehouse employees to work without interruption.

Aleksander Styś, VAR Account Manager at Zyxel said, "For the efficiency of the wireless network being built, it is crucial to plan the appropriate arrangement of access points and their convenient and flexible configuration. At Zyxel, we have solutions that allow us to support our partners in both of these aspects. The additional benefits of using Zyxel's solutions are the breakdown service and limited lifetime warranty, which are already included in our SMB switches and access points."

Using Zyxel solutions, the customer managed to get this done. Diesel Części's employees now enjoy seamless connection that aids their operations without fail.

Products Used

NWA1123-ACv2 • 802.11ac Dual-Radio Ceiling Mount PoE Access Point



- NebulaFlex™ gives you the flexibility to switch between stand alone and Nebula cloud management
- Nebula cloud management allows easy deployment, real-time configurations, and access to all your access points at anytime
- 802.11ac 2x2 supports a combined data rate of up to 1.2 Gbps
- Compact ceiling-mount design with optimized RF performance
- Robust build quality including solid-state capacitors to ensure long life and operational reliability

GS1920-24HPv2 • 24-port GbE Smart Managed PoE Switch



- Up and running in minutes — supports NebulaFlex™ Technology to shift between standalone and License Free Nebula cloud flexibly
- Standalone: Easy management and setup with web-based GUI
- Nebula Cloud: Nebula allows simple deployment with agile network management
- Unique port combinations futureproof the network
- Smart fan design offers silent operations in your office
- PoE models comply with IEEE 802.3at PoE Plus with a large PoE budget of 375W

Nebula Control Center (NCC)



- Responsive web design and intuitive user interface
- Multi-tenant, multi-site view
- First time setup wizard
- Role-based administration privileges
- Real-time and historical monitoring/reporting
- Rich site-wide management tools
- Powerful organization-wide management tools
- Configuration changing alerts
- Misconfigure protection against disconnecting NCC
- Configure login auditing

About Zyxel Networks

Focused on innovation and customer-centricity, Zyxel has been connecting people to the Internet for over 30 years. Our ability to adapt and innovate with networking technology places us at the forefront of creating connectivity for business and home users. We're building the networks of tomorrow, unlocking potential, and meeting the needs of the modern workplace — powering people at work, life, and play. Zyxel, Your Networking Ally.

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