Automation of Raffinate Warehouse for "ZT Bielmar"

CLIENT

"ZT Bielmar" is a polish company whose main activity is processing of rapeseeds and production of margarines, vegetable fats and plant oils. It is one of the largest producers of vegetable fats in Poland. The company is located in Bielsko-Biała city in the Silesian Voivodeship.

TASK

The aim of the project was automation of Raffinate Warehouse used for storing oils received from refinery and for creating oil blends for further production. The line consists of 24 storage tanks with a capacity from 10 to 40 tons and 3 weighing tanks for precise dosing of mixture ingredients in accordance with given recipes. The most important automation subsystems are:

➢ self-learning weighing algorithms ensuring process optimization,
➢ heating system based on PID and hysteresis regulation,
➢ analysis of power consumption providing immediate detection of failures in heating circuits,
➢ visualization allowing for detailed diagnostics of each device / tank / process,
➢ extensive reporting system providing overview of the production history.

TECHNICAL SPECIFICATION

➢ PLC: Simatic S7-300, CPU 317-2 DP,
➢ Visualization: Wonderware InTouch 2017,
➢ Network: Profibus DP + Industrial Ethernet,
➢ Drives: ABB ACS355,
➢ Weighing terminals: DISOMAT B PLUS,
➢ Number of actuators: 200
(automatic valves, pumps, mixers, heating circuits).