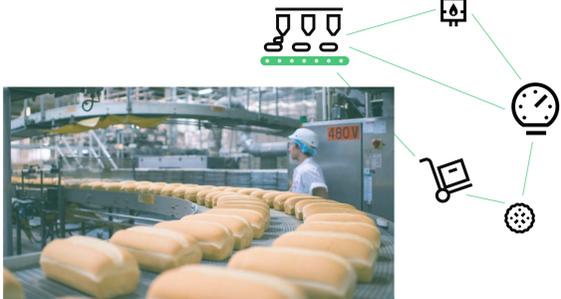


# Case Study

## More “Bread” in the Pocket for Bimbo Bakeries!

### Challenge

Bimbo Bakeries is the United States’ largest manufacturer of baked goods. Compressed Air is a critical utility used to automate baking, moving, and packaging baked goods. Compressed air is the lifeblood that allows Bimbo to make their delicious breads and treats!



At Bimbo Bakeries in Montebello, CA plant personnel noticed that their compressors were constantly starting and stopping during periods of both high and low production output. On top of this, the facility was experiencing abnormally high energy bills. Bimbo wanted to investigate further but had no insight into their problems or how to improve them.

### Discovery - Measure

Through continuous monitoring of the compressed air system, the plant manager immediately found problems within the facility’s compressed air network.

The first indicator that showed something was wrong was that system’s specific power was 40kW/100CFM. This is **100% higher** than the industry average of 20kW/100CFM. Further investigation was needed.



Continuous monitoring of compressed air performance allowed the Bimbo Stakeholders to make the following conclusions:

- 01**  
The system control logic across the pressure bands of the compressors was not configured correctly.
- 02**  
After shifts, Bakers blowing out pans created high demands of air over short periods of time. This caused compressors to load and then run on idle for extended periods of time.
- 03**  
Failed Valves on bakery baghouses were causing unnecessary pulses of air.

The next step was to pull resources and figure out how to address these issues.

### Zira bridges the Gap Between Knowing the Facts & Taking Action

Bimbo fixed the sequencing problem by changing local pressure setpoints on the compressors themselves. By doing this, Bimbo was able to get rid of idle times and unnecessary loading. The Zira app showed that this change reduced their compressed air system’s specific power to 38kW/100CFM. Zira benchmark KPI’s showed that there was more room for improvement.

The baghouse issues were fixed which reduced the system’s specific power to 37kW/100CFM. Bimbo was still far above the industry standard of 20kW/100CFM so they took to the production line to address the pan blowing. By spreading the pan blowing across a longer amount of time, they were able to reduce their system’s specific power by another 1kW/100CFM.



Motivated by the measured changes in specific power, they decided to look a little bit further into their leakage problem. During periods of no production or activity on the shop floor, Bimbo noticed that their baseload leakage was excessively high. They were able to pinpoint the exact time and date that this occurred by using the web application. After a minimal leak analysis during multiple leak periods they noticed that they were using an excessive amount of flow during hours of no production.

For this they hit the shop floor, and heard a hissing noise across multiple lines. They noticed that their blow-out process utilized multiple open-ended 1/8” copper tubes. These tubes were spewing air for no reason. On-top of that the higher pressure of the total system was causing a much a higher artificial flow to leave through the tubes.

Zira noticed that there could be a 50% energy reduction by implementing low-pressure blowers into the system. That way, air utilized for pan blowing could be turned on only when needed. Also, 50-80 psi air could be used to blow the pans vs 100-125 psi compressed air which is a significant energy reduction following the general rule (every 2 PSI reduction in operating pressure results in a 1% decrease in power consumption).

**Total Energy Savings**  
**\$73.240.00 annually**

**Final Specific Power**  
**28kW/100CFM**



## Outcome

### Using Zira’s Compressed Air System Insights Bimbo was able to...

- Easily analyze their air demand profile over an extended period of time to hone in on inefficient compressed air operation**
- Benchmark their improvement efforts in real-time against their past performance and the industry standard**
- Source the most cost-effective but reliable equipment and installation services to conduct improvement work on their system**