



## Eaton Prevents Milk Malfunction

**Location:**

Vinnitsa, Ukraine

**Segment:**

Data Centre

**Problem:**

Power outages were disrupting the operation of a machine used to transform liquid milk into dried milk powder, leading to costly loss of production and wastage of milk concentrate

**Solution:**

An integrated and highly efficient Eaton power infrastructure incorporating a double conversion UPS with an external battery cabinet, together with associated low-voltage power distribution systems

**Results:**

Safe and uninterrupted production, even during power outages. Also, the combined energy savings and production mean that the new equipment is expected to pay for itself in less than three years.

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**Background**

Roshen Confectionary Corporation is one of the world's largest manufacturers of confectionary products and is currently ranked number 20 in the Candy Industry Top 100. The company produces around 320 types of high-quality confectionary products including jelly sweets, caramel, chocolate, biscuits, wafers, sponge cakes and swiss rolls. Its total annual output reaches 450,000 tonnes.

Roshen's operations in the Ukraine include its headquarters and a major manufacturing site in Kiev, a manufacturing plant in Kremenchug and two more plants in Vinnitsa. In addition, the company has manufacturing sites in Russia, Lithuania and Hungary. Roshen products are sold widely throughout Eastern Europe, in the USA, Canada, Israel and many other countries.

The company's factory in Vinnitsa is dedicated to milk processing; it supplies natural

high-quality natural raw dairy materials to the Roshen's other plants and also to external customers.

Dedicated to manufacturing only the finest products, Roshen implements the strictest quality control procedures at every plant. Additionally, to ensure that its products reach consumers in peak condition, and to guarantee that raw materials are optimally stored, the company has recently built its own logistics centres. All Roshen production facilities are certified in accordance with the requirements of international quality and food safety standards.

**Challenges**

The Roshen milk processing plant in Vinnitsa experiences, on average, three to four mains electricity supply failures each quarter. When these failures occur, the effects on the dryers used to convert liquid milk into dehydrated milk powder are costly and disruptive.

*"Reliable power is saving us many hours of lost production every year as well as greatly reducing product wastage. Because of this, the Eaton power infrastructure solution we've installed will pay for itself in less than three years"*

*Andrey Dzhigalyuk, Electrical Supervisor,  
OJSC Vinnitsa, Roshen.*



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On each occasion, more than 10,000 litres of prepared milk mixture is spoiled and has to be discarded. In addition, the machine must be thoroughly washed and dried before it can be put back into use and this is a complicated, expensive and time-consuming process, which takes over 12 hours.

To avoid these problems, Roshen needed a secure power solution with an instantly available standby supply to take over in the event of a mains failure. Because the requirement was to keep the dryer fully operational, the supply needed to have sufficient capacity to supply the machine's motors and other power-hungry components. It also needed to have power reserves that would be sufficient to keep the machine running throughout extended power outages.

### Solution

After investigating the requirements and assessing the load presented by the milk drying machine, Eaton engineers proposed a power infrastructure solution based on one of the company's

latest PowerXpert 9395 UPSs, partnered with an external battery rack to provide the necessary extended run-time. Roshen considered this offer along with proposals from other potential suppliers, and decided that the Eaton offer best suited its needs.

"We wanted a complete ready-to-go solution, including a maintenance bypass system and we wanted to deal with just one supplier," said Andrey Dzhigalyuk, Electrical Supervisor at Roshen's milk processing factory in Vinnitsa. "Eaton was able to meet these requirements. Also, we have a strong preference for products that are manufactured in Europe, which Eaton UPSs are. Finally, Eaton could offer fast delivery and its products have an outstanding reputation for reliability, efficiency and durability. When all of these factors were taken into account, selecting Eaton to supply our new power infrastructure was an easy decision to make."

The solution supplied to provide secure power for the milk dryer comprised a PowerXpert 9395 double-conversion UPS rated at 1,100kVA, and a battery cabinet with six battery strings, each

made up of 40 12V 360Wh batteries. Eaton implemented the associated power distribution and maintenance bypass systems using products from its versatile xEnergy low-voltage switchboard range and IZMX 40 compact air-break circuit breakers.

UPSs in the PowerXpert 9395 range, as used in this project, feature efficiency typically better than 94% in double-conversion mode and innovative technology such as the ABM battery management system. ABM continuously monitors battery status, optimising charging time and extending battery life by up to 50%, which is an important benefit in a large installation of this type.

All of the major electrical components used in the project were supplied, installed and commissioned by Eaton. Deliveries were on time, installation and commissioning were problem free and the project was completed ahead of schedule.

### Results

Since the new power infrastructure was installed and commissioned, the milk drying installation at the Vinnitsa milk processing factory, which produces more than 2.5 tonnes of dried milk powder per hour, has continued to experience frequent outages of the mains electricity supply. In every case, the new equipment has performed faultlessly, and production has continued without interruption.

*"We're delighted with our new infrastructure solution supplied by Eaton," added Andrey Dzhigalyuk. "We were really happy to work with a single company that could meet all of our power needs and that really understood the challenges we were facing. And, of course, being able to continue running our milk dryer during power outages is now saving us a lot of money. In fact, we have calculated that the new equipment will easily pay for itself in just three years."*



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