HIRSCHMANN

A **BELDEN** BRAND

Ethernet in the food industry: Bonduelle.
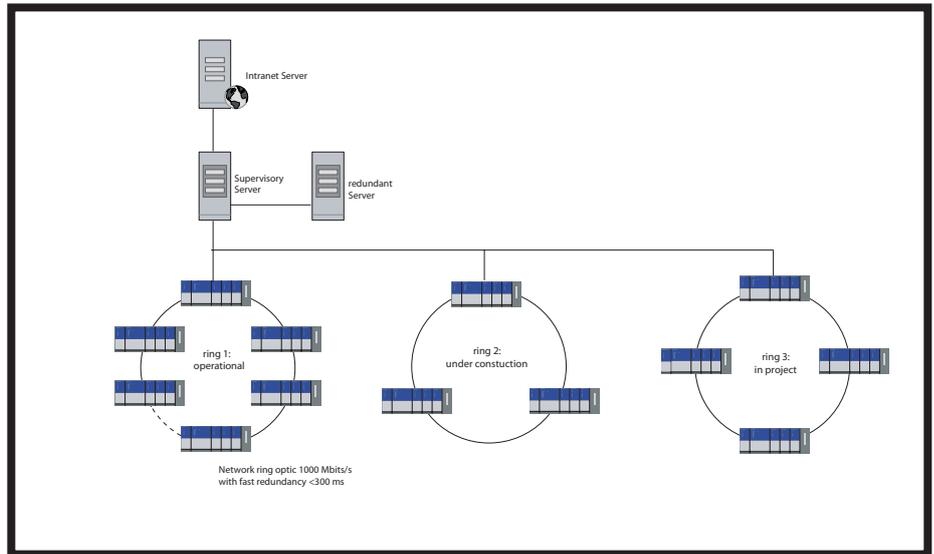
Food / Beverage

The Bonduelle site at Renescure is made up of 1100 people at peak times, producing 130,000 t of cans of food per year with an additional 38,000 t of frozen goods and 30,000 t of jars and cartons.

In order to optimize the process from both a productivity and an energy consumption point of view, Bonduelle has introduced an Ethernet production network whose aim it is to gather as much operational data as possible. As an additional bonus, this gives the Renescure factory very precise traceability of all of its products.

The Renescure site also produces cooked vegetables. The vegetables are packaged in all possible forms: cans of food in ¼ to 5/1 formats, jars and now cartons.

Intranet Server

Supervisory Server

redundant Server

ring 1: operational

ring 2: under construction

ring 3: in project

Network ring optic 1000 Mbits/s
with fast redundancy <300 ms

PowerMICE

MICE Modul

Olivier HOLOGNE, project manager

Project details

Production of preserved vegetables requires permanent optimization of energy consumption and productivity. The tests carried out on production output are numerous and advanced (vision, calibration, infrared, laser, …). These processes are quite delicate, because in the case of imperfect settings, the rate of rejection could be up to 70%. On one hand you have to consume just enough without running the risk of not heating the food enough and on the other hand analyze all by-products of the process in order to study the impacts on rejection rates. Bonduelle has been innovative by introducing advanced statistical methods. There are many parameters involved: machine opening time, type of vegetable, varying temperature data, MTBF of components, cooking measurements. Hirschmann™ Ethernet switches enable this data to be collected which is analyzed in the control rooms. Data warehousing helps to determine the best settings to apply and to carry out adequate preventative measures.

Project parameters

Availability without fail, 24hours a day, 7 days a week is imperative in order to collect reliable and exhaustive data. The evolutivity of the network and the available bandwith are also essential parameters. The choice came down to Ethernet technology for cost reasons and especially backwards compatibility with the rest of the network of the factory where the data processing is carried out.

Requirements

- 300 ms reconfiguration time
- Double safety supply
- Backwards compatibility
- Simple configuration
- Evolutivity of the PowerMICE solution

Solution

A redundant Gigabit Ethernet ring configuration made up of 8 PowerMICE switches. Mounted on a modular rail, they are characterized by the ability to be extended simply according to the development of the network. The fiber optic loop measures 1.1 km with average sections of 200m. This covers all food, cartons and jars production facilities. Extension of the network to the part of the factory dedicated to frozen products is being examined.

Why Hirschmann™?

Olivier HOLOGNE, project manager:
„The precision of production statistics depends on the availability of the Ethernet network which enables data to be uploaded. Hirschmann™ equipment has met our goals perfectly. We are also very satisfied with the simplicity of implementation. The supplied interface has enabled Ethernet switches to be programmed easily and their configuration can be saved. The network has been operational from the outset and I have not had to intervene since".