

# POMS MES for all plants

Israeli market leader Tnuva choose Honeywell system

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Many challenges affect the modern dairy operation. Challenges that hinder dairy processes can be costly, and consistently result in the potential for waste, rework, and lost time-to-market, freshness, and revenue. Compliance with GMP and customary standards, as well as the care needed to maintain the absolute currency and freshness of the product line all add layers to the increased level and standard of performance that must be maintained to run a successful and profitable dairy operation.

Increasingly, makers of consumer packaged goods, especially those in the dairy marketplace, have found themselves looking for manufacturing solutions that address key challenges and increase the overall efficiency, agility, and profitability of the enterprise. An obvious solution has

- linking of all pieces of information in the plant via interfacing and
- decreased variance in production

In 1993 and 1994, Israel's dairy giant, Tnuva ([www.tnuva.co.il](http://www.tnuva.co.il)), went looking for such an MES system. The company's experience with the selection and implementation of the MES solution from Honeywell POMS in a single dairy in 1995 through its decision to expand the latest POMS MES technology across all of its facilities in 2000 is explored below.

## Tnuva Dairies

Tnuva is Israel's largest manufacturer and distributor of food products. Tnuva's Dairy Product Division is the company's largest, with six dairies and nine distribution centers. Processing over 800 million liters of milk a year, and 500 dairy products, Tnuva Dairies is the dominant revenue-generator in the company's corporate structure, accounting for 800 million dollars of the company's annual revenue of over 1.5 billion \$.

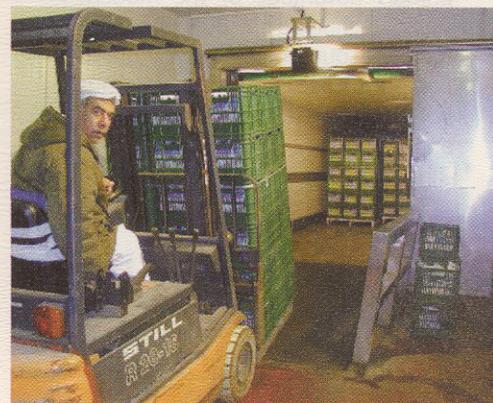
Tnuva Dairies develops, manufactures, processes, as well as packages, ships, and markets, more dairy products than all of their direct competitors combined. Tnuva offerings supply 70 per cent of Israel's market

demand for dairy products, with 10 000 retail outlets visited daily.

been the implementation of Manufacturing Execution Systems (MES) similar to those used in the pharmaceutical/regulated, and near-regulated manufacturing industries. The benefits such systems provide those marketplace easily translate into benefits in the dairy industry, including:

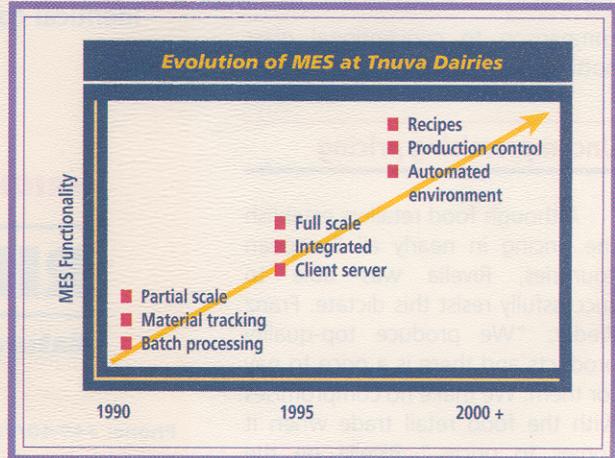
- material control across all manufacturing processes
- quality management
- tight integration of all production and quality data
- full lot traceability

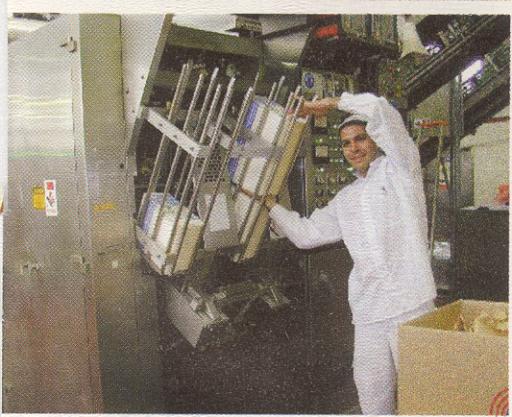
The main products produced by Tnuva Dairies include both fresh and UHT milk, yoghurts and sour milk specialties, children's desserts and beverages, hard cheeses and butter, soft and cottage cheeses, as well as premium and cream cheeses. A broad range of products and brands is key to Tnuva's position as Israel's dairy



leader, but also brings along with it a number of manufacturing challenges with regard to the large scope of Tnuva's dairy processes.

Differences in the processes for milk, yoghurt, and soft cheeses alone presented variations on these same challenges, compounding them further. These challenges also included the additional specifications and standards maintained to





keep the entire operations and the products produced fully kosher.

Due to the nature of the dairy business, including the constant introduction of new flavours, brands, etc. (only some of which are successful), Tnuva's plants must be flexible, able to introduce new products and cope with variable demand. Dairy products also have a shorter shelf-life. Any manufacturing solution considered had to be able to meet the specific needs and specifications of both the dairy industry, and Tnuva, specifically.

### MES at Haifa

Tnuva's relationship with POMS MES began in 1995, with the selection of POMS MES for implementation in the company's Haifa dairy facility. At the time of the selection, the Haifa facility produced 100 products (milk, soft cheese, and yoghurts) and processed 12 million liters of milk per month. Management of pasteurization, filling/packaging, storage,

warehouse movements, truck loading, QC sampling and results, and plant information expected to be addressed via the implementation of the chosen POMS MES solution, with the following key variables monitored

- ensuring the final product meeting of specifications defined to the consumer (e. g. fat content, kosher standards)
- minimization of "giveaway"
- ensuring that sufficient intermediate product is manufactured to meet the final product demand (including lot rework if needed)
- management of routings.

Tiltan System Engineering, an Israeli business partner, was tasked with the development and management of the implementation, including Hebrew language translation and support. The implementation was designed to take place with a scope that began with the receiving of raw milk and followed through the distribution of finished goods.

### POMS MES functionality included in the implementation addressed

- all pasteurization, production, filling, and packaging and distribution area coverage
- material and asset management
- quality management
- lot traceability
- warehouse inventory management
- sampling and lab results
- SPC and trend charts

Successful collaboration by POMS, Tiltan, and Tnuva Haifa, yielded a full "dock to stock" implementation, covering all processes, warehousing, distribution and quality. The solution is integrated with corporate systems, equipment, radio frequency devices, and provides real time management information on plant performance and demand. Extensive use is made of statistical tools, as well.

The POMS network was implemented on 35 workstations with menus and key management information available on all workstations, high availability (24 x 6) and full Hebrew language support.

Yakov Rabinovitch, CIO of the Tnuva Milk Division: "POMS has proven invaluable in our Haifa facility. POMS quickly optimized our entire manufacturing process, gave us immediate access to key decision support data throughout the process, and enabled us to increase flexibility, output and service to our customers."

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# Dreaming

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## An expanding relationship

In 2000, the companies announced the signing of a near 2 million \$ agreement to implement POMS MES across all of Tnuva's dairy operations.

The decision to expand the POMS systems, say company officials was based on the successful implementation of POMS MES at the Haifa facility. The project is part of an overall reengineering project that will involve the closing down of some plants, and the building of a brand new POMS-equipped dairy facility from the ground up.

Tiltan Systems Engineering remains POMS's certified alliance partner in Israel, and will supervise the integration of the POMS MES software at Tnuva's dairies. As with the Haifa installation, Tiltan will also perform the task of translating the POMS software and support materials into Hebrew.

The further implementation will feature the increased functionality of POMS latest generation of the MES product and will be designed to meet the following project objectives

- improved production process control including: Work in Progress (WIP) and quality control across production facilities
- decreased process variability
- management of the quality indicators in the production process
- improvement of KPI: yield, scrap, assets utilization
- execute production according to the planned production schedule
- transparency of integrated information to all functions across the dairy
- increased agility in production by having MES control over the production systems

Improved functionality will include:

- execution of the production plan according to priorities, materials, availability, and production capacity
- ownership and maintenance of the Master Recipes
- management of the production processes according to the recipes and monitoring of deviations
- quality management including quality control, laboratory, SPC and data analysis

- forward and backwards lot traceability and EBR from ingredients to finished goods pallets
- physical indicators control including: yield, scrap, material balance
- integration of the manufacturing facilities with the material process

## Tnuva and MES

Overall, Tnuva has found MES to be both a viable and a profitable solution for their management of dairy processes. Their selection of POMS MES from Honeywell POMS, based on POMS established experience in the regulated and near-regulated process manufacturing industries, has resulted in a successful collaboration, expanding from a single dairy across the entire Tnuva Dairy organization over the last decade.

Says Gadi Lauer, project manager of the first POMS MES installation at Tnuva's Haifa facility "Tnuva Dairies work round the clock, producing a wide variety of products, at the highest quality standards, while remaining compliant with all appropriate manufacturing and kosher guidelines. The company must also meet the demands of a highly competitive market. In this environment, there is not much room for inefficiency or error."

With the successful implementation of an MES solution, even more updated implementations to follow, Tnuva Dairies has found the gaps between development, production, and distribution closed, while operating at a higher level of agility, flexibility, and consistency. ♦

# Ways to

## When Russia closed its borders retail shelves were half empty again

In Spring of 2001, people living in large cities and towns in Russia faced something that they haven't seen since the fall of communism. Empty or half empty shelves in supermarkets and food stores. Under the communists people didn't have hard currency to buy imported products. This spring it was the foot and mouth disease in Europe that left storages of trading companies half-empty and made Russian shops sell locally produced milk products and some items brought to the country from New Zealand.

26th March was the worst time for all companies importing food, i. e. meat, fish, poultry and milk products from the whole of Europe, except from the former Soviet republics Ukraine and Belorussia.

Due to outbreaks of FMD on the Continent, Russian authorities imposed a ban on imports on all products from Europe. Subjects for the ban were also cheese and UHT milk.

Officials explained that even properly made dairy products can transfer the virus on their packs. The ban was partly lifted a month later on 28th April, but certain countries such as France and the Netherlands still cannot import their milk goods to Russia because of quarantine.

The ban came quite unexpectedly for the Russian market. After two years of economic crisis, consumption of cheese began to grow significantly. The data provided by leading local Gallup Media marketing agency shows that in the beginning of the year 2000, 19 per cent of all Russian ate cheese every day. By the beginning of this year, however, consumption rose to 23 per cent.

While local cheese makers producing mainly non-branded and low-quality cheese in comparison to that made in Central European countries, Russians tended to switch to imported cheese. Figures of the National Statistic Committee showed that for the first time since 1995 production of cheese in second half of the

 **Zusammenfassung**

Der israelische Marktführer Tnuva setzt beim Management der Produktion auf den US-amerikanischen Hersteller Honeywell. ♦

 **Résumé**

Tnuva, leader sur le marché israélien, a choisi l'Américain Honeywell pour la gestion de sa production. ♦