



The raw milk store contains now five tanks of 120,000 l each



View into the basement of the new production building in Ljubljana



Carton trays are erected below the filling level and then transported directly to the machine

Preparation for EU cost over € 50 million

– Portrait of the Slovenian market leader Ljubljanske Mlekarne –

Slovenia's market leading dairy company Ljubljanske Mlekarne (LM), which holds a 70 per cent share of domestic raw milk collection, has prepared itself with a strategic reorientation for the EU-entry of Slovenia. Nearly 30 projects, which often run parallel, like for example the introduction of SAP or the extension and fundamental modernisation of the company in the Slovenian capital Ljubljana shall take the company to absolute EU-level as far as costs and capacity are concerned.

For that reason € 50 to 60 mln have been invested during the last years. This included not only measures in the home country as well as the take-over of two cheese-dairies, but also the purchase of a dairy plant in the Bosnian Tuzla and the foundation of a sales branch in Croatia. At present LM produces per year 100 mln litres of UHT milk, 20 mln litres of fresh- and ESL-milk, 1,000 tonnes of cheese, ice-cream as well as a wealth of yoghurt- and dessert-products, out of 300 mln litres of raw material, coming from 4,000 farmers, collected every second day. In the cheese-plant Maribor 150,000 l milk/d are processed to semi-hard cheese, quark, cheese spread and mozzarella, since a short time whey has been concentrated there by RO. The second cheese plant in Kocevje processes per day 140,000 litres of milk to hard and semi-hard cheese (the

whey is concentrated conventionally), while the main plant in Ljubljana converts its daily 460,000 litres of raw material into yoghurt, fresh- and UHT-milk, butter, desserts and ice-cream. At present, the number of employees is 900, however after the introduction of SAP and the full putting-into-operation of the plant expansion as well as the connected logistics, it will decrease to approximately 800 employees.

As LM sells 90 per cent of its production at home, the company has to face the new market conditions in a special way – in the period from May until December 2004, 188 new milk products from the EU came onto the Slovenian market, besides – the discount retailers also have entered Slovenia. LM faces this trend with high



Dirk Pitzel (pi-TEC, left) and LM-production manager Slavko Peklaj have planned together the expansion building and putting-into-operation

quality at a moderate price, which can possibly lead to a renunciation at market shares, according to the chairman of the executive board, Mr Matjaz Vehovec (MBA). However, in return LM seeks new opportunities arising in the EU: exports of

Ljubljanske Mlekarne produces an enormously wide assortment



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When it comes to appealing packaging for premium products LM is in favour of Tetra Top



Fresh milk is filled by LM in gable-top cartons



Packing material (here: cups) is transferred to the fillers from the basement

UHT-milk and cheese to Germany, Hungary and Italy are already running, however, as M. Vehovec said, LM has no intention to enforce the comfort way of sending milk to Italy.

"Turbulences" were pre-programmed

The old industry structures, coming from the former central economy, still yield problems for LM – as well as for other food manufacturers in Slovenia: the company, which appears as a stock corporation, is to a 45 per cent owned by co-operatives which organize traditionally the collection of milk. However, the milk is paid directly to the producers, so that their milk-price expectations collide directly with the commission payment to the cooperatives (approximately 2 Tolar/l).



Managing director Matjaz Vehovec already reaches for the market in the whole Balkan

Adjusted by this commission, the producers receive currently about 68 Tolar, that is 29 Cent. "The supplier-cooperatives – which are at present 68 in the network – will have to find a new role, as the cost for milk production and processing will have to be reduced even more in Slovenia. There is no doubt that the market revenues in the extended EU will be under permanent pressure", said Vehovec. Already when joining the EU, the producers, which had been spoiled by governmental subsidies for a long time, had to accept a cut in the milk price as these supports had been dropped. For the first two years of the EU-membership LM had already expected "turbulences" – and has adapted itself to it: "For the years 2004 and 2005 we have included slight losses in our budget", declares Vehovec, "and with this we were exactly right". To encounter exactly this, a consequent restructuring has been pushed ahead during the last few years. The plant Ljubljana has been separated in a UHT-section and a fresh-section by an extension building, furthermore the logistics has been improved decisively with the construction of an automated high-bay storage, offering space for 5,500 pallets (50 per cent cooled).

Project start in 2002

For the planning and organisation of this extension the engineering office for process engineering piTEC* from Radolfzell, Germany, has been engaged, which has successfully been in charge for a series of similar great projects at home and abroad in the last 20 years. In the case of LM, it was the complete preplanning, the projecting, the engineering, the budgeting and the accompanying of the putting-into-operation by pi-TEC-owner, Dirk Pitzel and his team, which have been carrying this since 2001/2002, besides the planning for a modernisation of the two cheese plants,

which belong to the company. The technical installations as well as the warehouse are being taken into operation within these days when this article will appear. While the UHT department with its two 12,000s lines with direct steam injection and the three 1 litre-TBA Slim-ReCap as well as one 500- and a 250 ml Tetra fillers each (slim-size) remained on the spot, the fresh department was designed and rebuilt completely new. As the plant is located in the middle of the city, a multi-stage building had to be constructed with a 1,500 m² floor space per level. The complete processing has been placed in the 1st floor, the filling is installed in the ground floor, the supply of packing material is carried out automatically from the cellar.

An existing 25,000 l-pasteurizer line has been supplemented with a new line with the same performance. The components for that come from APV (pressure plate pasteurizer, Rannie- and Gaulin homogenizers), Westfalia Separator

Ljubljanske Mlekarne

- milk processing: 300 mln l plants
- two cheese plants (Kocevje, Maribor)
- main plant in Ljubljana
- dairy plant in Tusla (Bosnia)
- turnover: € 175 mln

market shares in Slovenia:

- 70 per cent with UHT-milk
- 80 per cent with fresh milk
- 60 per cent with cream
- 50 per cent with cheese
- 40 per cent with ice-cream
- 35 per cent with yoghurt

employees: 900

brands: Alpsko mleko (UHT-milk), Ego, Boom, Gaudar, Lascan, Vosavec, Jost, Stiskisov, Lucka, Planica, Otovec, Kako si

(centrifuges), Alfa-Laval (pumps and valves). An automatic fat standardization of APV completes these lines. In this operation room are also the two yoghurt milk pasteurizers (an existing 6,000 l/h and a new 10,000 l/h line) as well as the 4,000 l/h cream heater, which is used together by the two raw milk processing lines.

The raw milk, which is delivered round-the-clock, is taken over by four reception lines at 40,000 litres capacity per hour, the

milk is then stored in the raw material storage, which consists of five 120,000 litre tanks. The heated fresh milk is stored in four tanks of 43,000 litres each in semi-aseptic-type (steam rinsing of valves and agitator bearing, sterile air covering), while the process milk-setting is carried out with two 43,000 litre-skimmed milk tanks and one 20,000 litre-cream tank. For set yoghurt two 43,000 litre-tanks are available, stirred yoghurt is prepared by four 20,000 and 10,000 litre-incubation tanks each. The tank capacities are completed by four 20,000-litre cold storage tanks. As DVI-cultures are used exclusively, it was decided to do without a culture station. The product transport is carried out by pumps of Alfa-Laval, Netzsch and Stamp. Three automatic lines for the fruit



One of the three fruit mixing stations in the main plant

dosing of MHG complete the production, MHG was responsible for the total assembly and automatization. The CIP is constructed as a mixing system of central plant and satellites.

High flexibility

In the wide branch-specific field, the plant in Ljubljana has always been on a technical high standard and the new fresh section was designed for highest possible flexibility and maintainability as well as short ways for the operating crew. Moreover, there is still room for expansion, following later. All operations are controlled by a control room, which is located really central, with four PLC, to which a front labour is connected where the operators can execute independently the process accompanying analytics (Foss).

In the ground floor a whole number of filling machines is available: two Hamba and one Amann Ampack-cup filling machines, two new Tetra Top-fillers and one Tetra Rex (12,000 packages/h). From



Preparation for the EU

For years Ljubljanske Mlekarne has prepared itself thoroughly for the EU-entry of Slovenia. Since the year 2002, € 50 to 60 mln in total have been invested in production, logistics, EDP and the expansion. In the context of the EU-market preparation outstanding projects were: closure of three plants, extension and modernisation of the cheesemaking capacities, expansion and modernisation of the plant in Ljubljana, reorganization of the complete logistics, foundation of a branch in Croatia, purchase of a plant in Bosnia, introduction of SAP. Still upcoming are: closure of a cheese plant, merger with a Slovenian dairy and the start on the stock exchange.

February on several robots of Kuka will handle the palletising of the many different products which are filled simultaneously.

Part of the cellar is reserved for the tray folders as well as the supply of all kind of different trays and the caps for the carton fillers, in an adjoined sector are the incubation rooms for yoghurt, beside to it is the CIP-storage. The yoghurt pallets are led back into the first floor and from there via a

The portfolio of LM's dairy products does not rank behind those of leading international dairy companies in the Slovenian market

rapid cooling tunnel (Wiessner*) into the new high-bay storage after incubation.

LM wants to go public

LM has defrayed the total of investments mainly from own resources. Nevertheless, the financial situation is still so good, that the manager of the company, M. Vehovec, wants to go public with the company within the next 18 months. Furthermore, the dairy is seeking expansion into the EU and other countries. For that reason, LM is also open for partnerships with foreign dairy companies, for a few companys they already take care of the local distribution. As the trade with the new countries in former Yugoslavia has been made more difficult by drawing up the new border caused by the EU-entry of Slovenia, LM has already made one foreign direct investment in Bosnia. The dairy plant in Tusla, which has recently been taken over, has meanwhile been extended to a daily production of 75,000 litres and shall reach 150,000 litres or a 25 per cent-share of the raw material market within the next two years.



Zusammenfassung

Der slowenische Marktführer Ljubljanske Mlekarne hat enorme Mittel aufgewendet, um sich fit für den Wettbewerb im erweiterten Europa zu machen. Teil der Investitionen war der Ausbau des Hauptwerks in der slowenischen Hauptstadt. □



Résumé

Le leader du marché slovène, Ljubljanske Mlekarne, a investi des moyens considérables pour se mettre à niveau pour la concurrence dans l'Europe élargie. Une partie de ces investissements a eu pour objet la construction de l'usine principale dans la capitale slovène. □