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## Family-run company in Slovenia takes new concrete block making plant into service

The positive development in the building material market in Eastern Europe has now also led to small to medium-size companies investing in large building material production plants. A good example of this is the company Cementni Izdelki Jarc in Medvode, a suburb of the Slovenian capital Ljubljana. The Jarc company was founded in 1961 by Mr Franc Jarc senior, the father of the current proprietor. At that time he began to manufacture concrete pipes by hand. A second-hand Hess HP I multilayer production machine was acquired in the mid 1980s, with which the production of paving stones began. This machine was replaced by a new Zenith multilayer production machine in 1997. The company has been headed by the two sons Franc junior and Joze since 2000, but both parents are still active in the company today.



Fig. 1: Cementni Izdelki Jarc's production site in Medvode, Slovenia

Influenced by positive market developments and Slovenia's impending entry to the EU in 2004, initial investigations had already been carried out in 2002 with a view to expanding and renewing the production facilities. The project was substantiated at the BAUMA 2004. It was clear how the plant should be technically laid out. After speaking to several manufacturers, the Jarc family decided to implement the project together with the companies Oru (expansion of the existing mixing plant) and Hess Maschinenfabrik (delivery of a new concrete block making circulating plant). The most important reasons for the decision were a significant increase in the quality of the products and an expansion of the product range.

However, the biggest problem proved to be obtaining building permission, which delayed the project by about 2 years. The Jarc family never doubted that the future project would be realised though, and worked consistently to obtain the requisite permission. It was finally possible in late 2007 to sign the contract for the delivery of the complete plant.

The rebuilding of the production hall began in spring 2008. Following its completion, the block making plant was delivered in May 2008. The heart of the plant is a Hess RH 1500-2 VA with a board size of 1400 x 950 mm, which is equipped with all of the common technical features of the Hess RH machines.

The features of the Hess RH 1500-2 VA include:

- Patented 'Vario Tronik' servo vibration
- Drawing sheet
- Hydraulic filling grid
- Multicolour unit
- Pneumatic scraper
- Fast Mould Change
- Mould change crane



Fig. 2: The heart of the plant is a Hess RH 1500-2 VA with a board size of 1400 x 950 mm



- Proportional valves for mould, tamper, filler box and filling grid
- Electromechanical block height power-off

After leaving the Hess RH 1500-2 VA, the manufacturing boards, which are supplied by the German company Eckart Holz, are transported with the products to the lifting ladder by a toothed belt conveyor. Provision has been made here for the later installation of a washing plant. 18 boards are then collected in the lifting ladder and transferred to a finger car with revolving units. The drives of the finger cars are equipped with servo motors; the positioning of the revolving superstructure and the undercarriage takes place with the aid of laser measurement systems. In order to operate the finger cars for setup, a radio remote controller like those usually used for construction cranes has been used for the Hess finger cars for several years. The finger car takes the production boards to the Rotho curing rack installed opposite the plant.

The cured products are in turn transferred by the finger car to the lowering ladder. After separation, the products are transported to the packet assembler by an accumulation pawl conveyor. Before assembly into packets, a spreading device can sprinkle granulate onto the products to counteract efflorescence.

The packet assembler places the product layers on a transport pallet. A conveyor transports the finished stone packet to a foil wrapping machine and subsequently out of the hall, from where it is taken by a fork lifter to the storage place.

The packet assembler has servo drives for lifting, driving and the rotary movement. Instead of chains, maintenance-free toothed belts are used, as they have been in all Hess packet assemblers for years. The clasps are hydraulically controlled and compulsorily synchronised via gear racks. The use of a hydraulic rotary distributor is not necessary, since the hydraulic hoses are rotated with the lifting mast over its entire length. This prevents the block surfaces from being contaminated by dripping hydraulic oil.

After the blocks have been destacked, the manufacturing boards are cleaned with a brush, turned by 180 degrees and then returned to the board magazine of the machine via a transverse conveyor. All operating controls are housed in a soundproofed control booth. The control cabinet is located outside the control booth on a second level. Siemens S7 programmable logic controllers are used, networked with one another via Profibus systems. The similarly tried-and-



Fig. 3: The finger car takes the production boards to the Rotho curing rack installed opposite the plant

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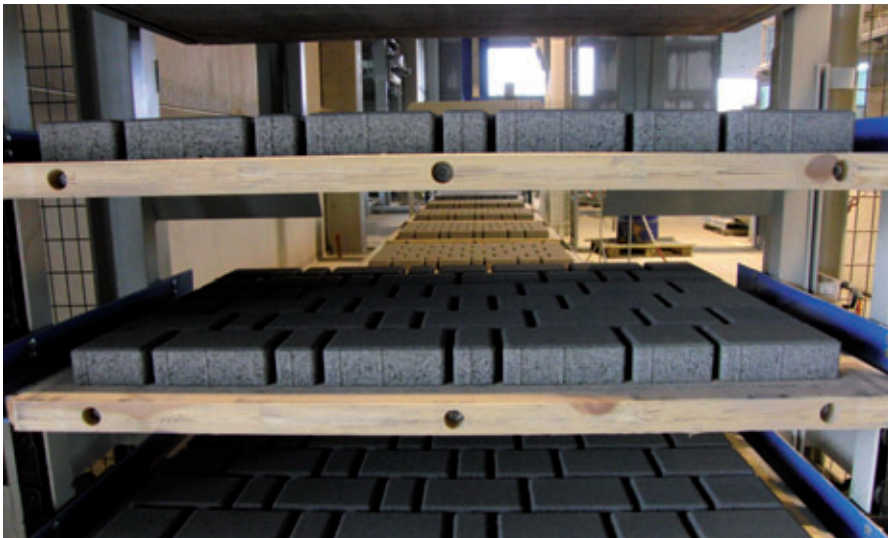


Fig. 4a: The cured products are in turn transferred by the finger car to the lowering ladder

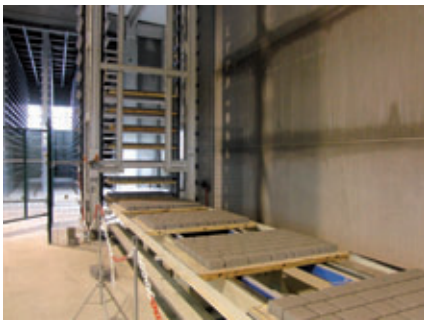


Fig. 4b/c: After separation, the products are transported to the packet assembler by an accumulation pawl conveyor

tested Siemens WIN-CC is used as the graphical user interface. All production-relevant parameters are saved so that, for example, the speeds and acceleration/braking ramps for the frequency converters on the transport units are adjusted

automatically when the product is changed. Operator errors are thus ruled out as far as possible. Operational malfunctions are displayed to the user in plain text. Support from Hess is guaranteed at all times via a teleservice. Hess has offered its

customers a 24-hour, 7 days per week service hotline for years. Production data is stored in a database and is thus available to the customer for further use.

The moulds used are similarly made by Hess. These are high-performance moulds in which the body of the mould is milled completely from a block of metal. Conventional technologies such as flame-cutting and subsequent milling are no longer used here. This has led to an enormous improvement in the quality of the moulds. With a great deal of personal dedication, the Jarc company has taken up full operation of the production plant in a very short space of time and the feedback from customers regarding the quality of the products is outstanding. For that reason they are very pleased today to have made this investment. Not only that, this is the first powerful large plant in Slovenia. They are convinced that they are now equipped to face the ever increasing demands for quality and performance in Eastern Europe over the next few years.

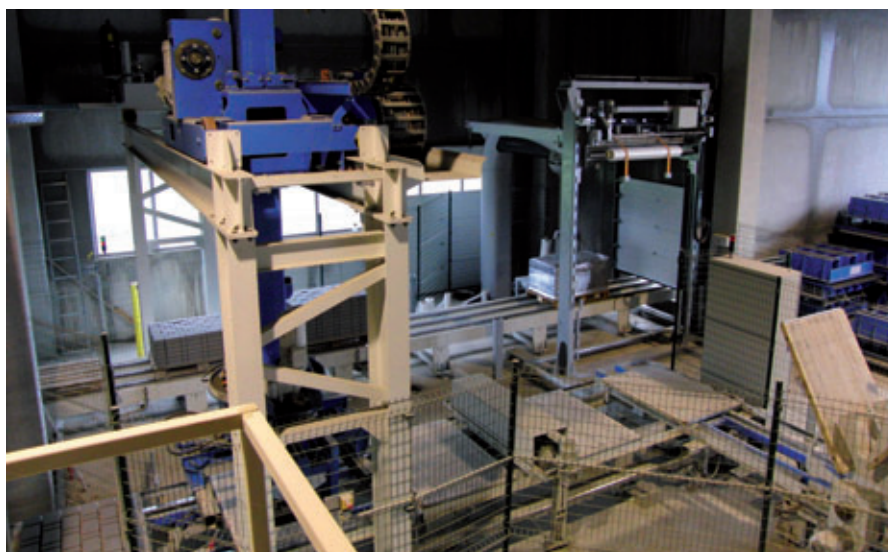


Fig. 5: The packet assembler places the product layers on a transport pallet. A conveyor transports the finished stone packet to a foil wrapping machine and subsequently out of the hall.

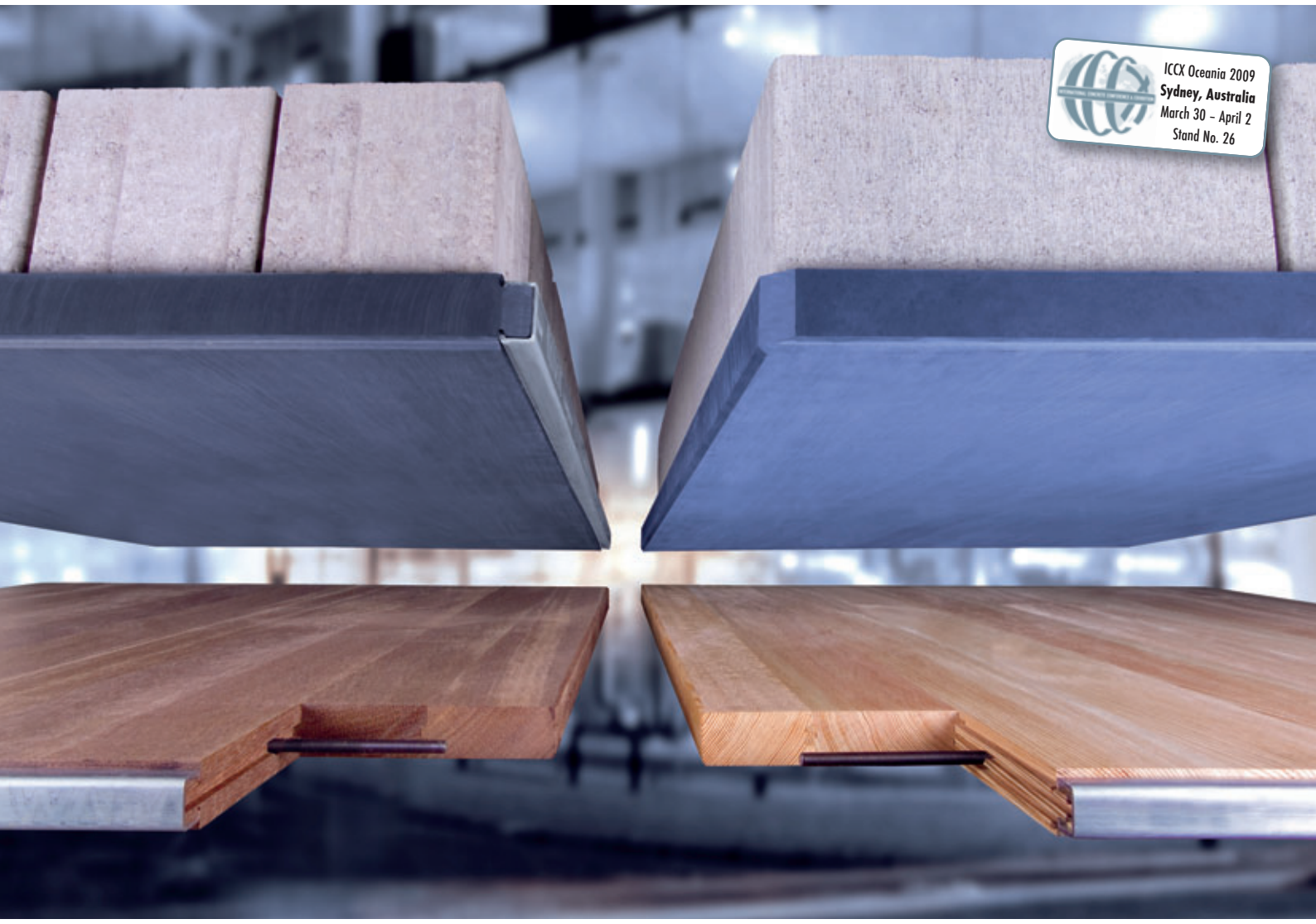
FURTHER INFORMATION



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## WASA HARDWOOD

### WASA UNIPLAST®

- ▶ excellent vibration transmission due to solid material
- ▶ flat, smooth, join-free surface
- ▶ extremely long service life
- ▶ profile on the longitudinal sides (protection against pusher damage)
- ▶ on-site re-grinding service

### WASA UNIPLAST® ULTRA

- ▶ improved characteristics compared to **WASA UNIPLAST®** standard but material completely microfiber reinforced
- ▶ increased load-bearing capacity
- ▶ extremely impact resistant
- ▶ possible to design without profiles

## WASA SOFTWOOD

### WASA HARDWOOD

- ▶ wood types: Yellow Balau/Bankirai or Azobé/Bongossi
- ▶ individual boards with tongue and groove joint and 10 mm steel bars with self-locking nuts (self-securing)
- ▶ 1.5 to 3 mm C profiles, riveted
- ▶ level ground surface

### WASA SOFTWOOD

- ▶ wood types: European fir/spruce or pine
- ▶ individual boards with multi-toothed glued joints
- ▶ additional steel bars upon request
- ▶ 2 to 3 mm C profiles
- ▶ 1-3 full rivets per profile
- ▶ level ground surface and treated with special impregnation

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