

New software for tannery process management

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Leonardo is a software system developed by Italprogetti for the management of tannery processes. It is flexible, modular, integrated, and open for interface with other Italprogetti management software. The system is adaptable to customer needs, allowing simultaneous use of connected machines in automatic and manual modes.

With over 20 years' experience in tannery management software, Italprogetti has gone back to the drawing board and totally re-written its platform for industrial automation. Starting back in 1998, the first release worked well but limitations were found, most notably the interface was not particularly user friendly. Following that, the second release was much more successful in all aspects until technology overtook it and its 'old style' looked dated.

In 2017, three in-house developers started on the new project. The initial aim was to supply the customer with a modular automation system adaptable to the different needs of the tannery. With this in mind, each machine connected to the system is fitted with a PLC – a programmable logic controller – which is an industrial computer control system that continuously monitors the state of input devices and makes decisions based upon a custom programme to control the state of output devices for the independent management of the process. The full management of a recipe for making a specific leather article is given to the PLC and not to a PC or servers, which are considered less reliable in the management of the industrial process. PCs and servers are used for the tasks of management of the database, recipe creation, definition of the chemicals, articles and management of the historical data. PCs are also used to create a bridge to the management software of the company.

Each machine is independent while at the same time connected to all the other installed plant. It gives the double advantage that if a problem (either for software or hardware) arises in one of the machines it does influence the process of all the other machines. This interconnection allows a high automation level for each machine and complete control over the manual interventions of all operators who can interface with the system.

The available modules can be divided into those controlling the physical equipment connected to the system and the software modules that allow the supervision of the process and each piece of equipment.

Equipment control components include:

Drum Control – for the management of all the manual operations and the remote management of the recipe.

Watermix – a system for water mixing and dosing.

Chemix – a system for chemical dosing, with possible water dilution in weighing tanks.

Chemgo – for direct chemical dosing with volumetric flow meters.



Manual operations such as dry powder additions are enabled through linked weighing platforms and barcode readers to input relevant information for batch processing. ALL IMAGES: ITALPROGETTI

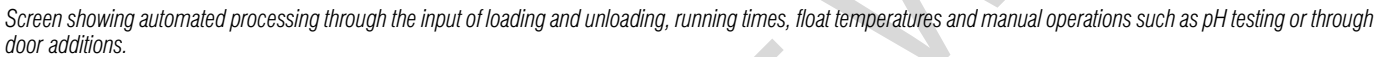
Process supervision and management components include:

Chronos – a server with supervision software for recipe creation and historical data management

Chemix M – for the manual preparation of powder and liquid chemicals, assisted by the software and by barcode readers

Datapad – a module for input and data through electronic instruments (pH, densimeter) or manual input after operator control (colour control, colour penetration) and any other notes to be stored during the process.

Datapro – data management and visualisation in the different sections of the tannery according to the needs of the operators. It is for instance possible to prepare an on-time list of manual chemicals for the warehouse, manual operations



Intellistore – Management of the chemical storage using barcode readers. It allows an assisted procedure for the replacement of empty IBCs or tank refilling. The main purpose of the module is to make a better visualisation of the status of the tanks (full, waiting to be refilled, empty) and to

Link – Customised interface to the customer software for company management (Oracle, SQL server). It allows the management of all data directly from the company management software. If necessary, customised solutions for the use of software from the company's ERP (Enterprise Resource Planning) system can be studied and developed.

The uptake of this new automation system is seeing steady growth, predominantly in the tanning world, but also with cross-over to the olive oil industry. 🌐

