

# Automated Batchpilot helps increase furnace productivity

Aluminium Norf introduced the Batchpilot furnace weighing system at its casthouse and found that furnace weights of 45t could be measured accurately and, for the first time, three slabs could be routinely produced per cast.

A furnace weighing system helps optimise furnace operations and increases productivity without installing new capacity.

The Batchpilot furnace weighing system from MQP is being used by Aluminium Norf, which has installed 11 of its casting pits with Batchpilot units.

Its original objective was to optimise the number and size of slab being produced per cast as a means of increasing production capacity. It examined the potential for using the Batchpilot system to achieve better control of metal transfer weight and metal weight in the furnace.

Its findings were that furnace weights of around 45t could be measured accurately and, for the first time, three slabs could be routinely produced per cast. As a result of the introduction of Batchpilot systems throughout the casthouse, the Alunorf management confirms that overall plant production capacity has been increased.

The Batchpilot furnace weighing system, which has been installed in more than 20 casthouses worldwide, can now be upgraded to a fully automated system.

This is achieved by adding software to enable automated measurement initiation together with a customised integrated data handling package to the Batchpilot system.

The software is designed to take away operator dependence, eliminate errors which can be caused by manual data input and provide an integrated data handling facility with graphic interface for storing and analysing historic measurement information.

## Batchpilot

The Batchpilot system was introduced into a casthouse on an industrial scale in 2005 at the Corus Duffel Aluminium plant in Belgium. It is a casthouse technology for measuring furnace heel and transferred weight with an accuracy of +/- 200kg. The system operates on the principle of measuring changes in the hydraulic pressure in the furnace main cylinder with the furnace tilt angle. Batchpilot can detect build up of dross on the furnace lining and to compensate for this in determining an accurate heel weight.

Since 2005 more than 50 BatchPilot systems have been installed in industrial casthouses and have proven to be a valuable means of increasing production capacity and reducing costs.

## Upgrade

When operating the standard BatchPilot system a weight measurement is initiated by the operator from the BatchPilot HMI control panel during the production process. Thus, the measurement of furnace weight is operator dependant and relies on the operator transferring the correct information from the Batchpilot screen to the Plant Batching System.

In new Batchpilot systems, dependence on the operator has been superseded by software which enables either remote initiation of the measuring operation such as exists at Alunorf or completely automatic initiation of the measuring operation which is now available and already installed in some casthouses with the latest Batchpilot systems (Fig 1).

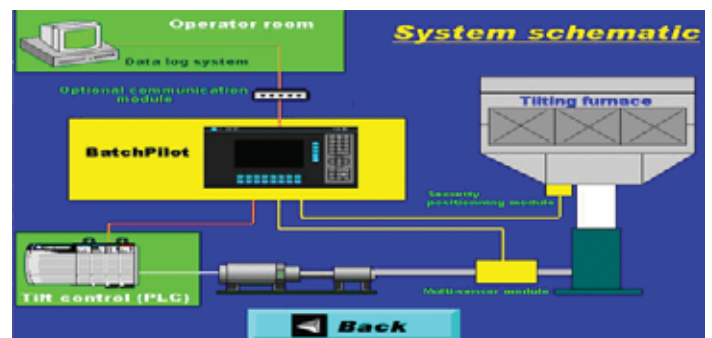
The second major upgrade is a significant change in how data generated from Batchpilot can be handled and stored. Originally, data was recorded manually from the Batchpilot screen. This was first improved upon by adding a communication module into the system, which transferred raw data to the scheduler who then had to decide how to handle the data.

Now, a full software integration service can be supplied by MQP data handling engineers. This can provide integrated output data generated by the Batchpilot system in a file format that can be read by the Plant Batching System. MQP engineers can work with casthouse personnel to develop a customised solution to meet their data handling requirements, which typically includes provision of a data base and graphic interface to enable historic data to be viewed, analysed and stored.

From now on, Batchpilot systems will be fully customised from an IT point of view and tailored and supplied to specific customer needs. The automated system will continue to provide the benefits of accurate measurement of furnace and transfer weights but will also significantly reduce operator dependence. ■

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Since its introduction in 2005 more than 20 casthouses use Batchpilot to determine tapping weight

Fig 1 The Batchpilot software system