

Format Change in Machines Today – Preventive Maintenance and Batch Size 1

„It’s quality that counts!“ Whenever a purchasing manager in the furniture industry was going to buy a wood processing machine ten or twenty years ago, that was the advice his production colleagues gave him. Naturally the purchase price had to be right too, and not least the delivery time.

It’s more complicated nowadays. Of course, the quality, price and delivery time still have to be right. But the production manager in a furniture factory must make sure of two things in particular: that he can change to new formats as quickly as possible (first „a slim cabinet, then a bulky chest of drawers, followed by a small table“) and that the expensive machine keeps running and doesn’t stop suddenly.

Translated into the pure language of the experts, the production manager requires nothing other than an automated format adjustment with the highest possible availability of machinery. While machine adjusters years ago had to wind hand wheels under high pressure and watch

vigilantly to make sure that the machine was changed over from the cabinet to the chest of drawers without waste, automated positioning systems have long been established.

But this is right where the wheat is separated from the chaff, as Peter Rathgeber, a division manager at HOMAG, knows. „These days, it goes without saying that a machine should have the general advantages and savings of automatic format change: reduction of technical staff, faster format change than in manual operation, adjustment without a risk of collision or readjustment when the axis is inadvertently pushed out of the target position.

„The fact that automated format change makes batch size 1 possible is no longer news these days,“ adds Rathgeber, who has already successfully developed many generations of wood processing machines for the market. „The icing on the cake nowadays is the availability of the machine and thus self-monitoring of all critical components.“

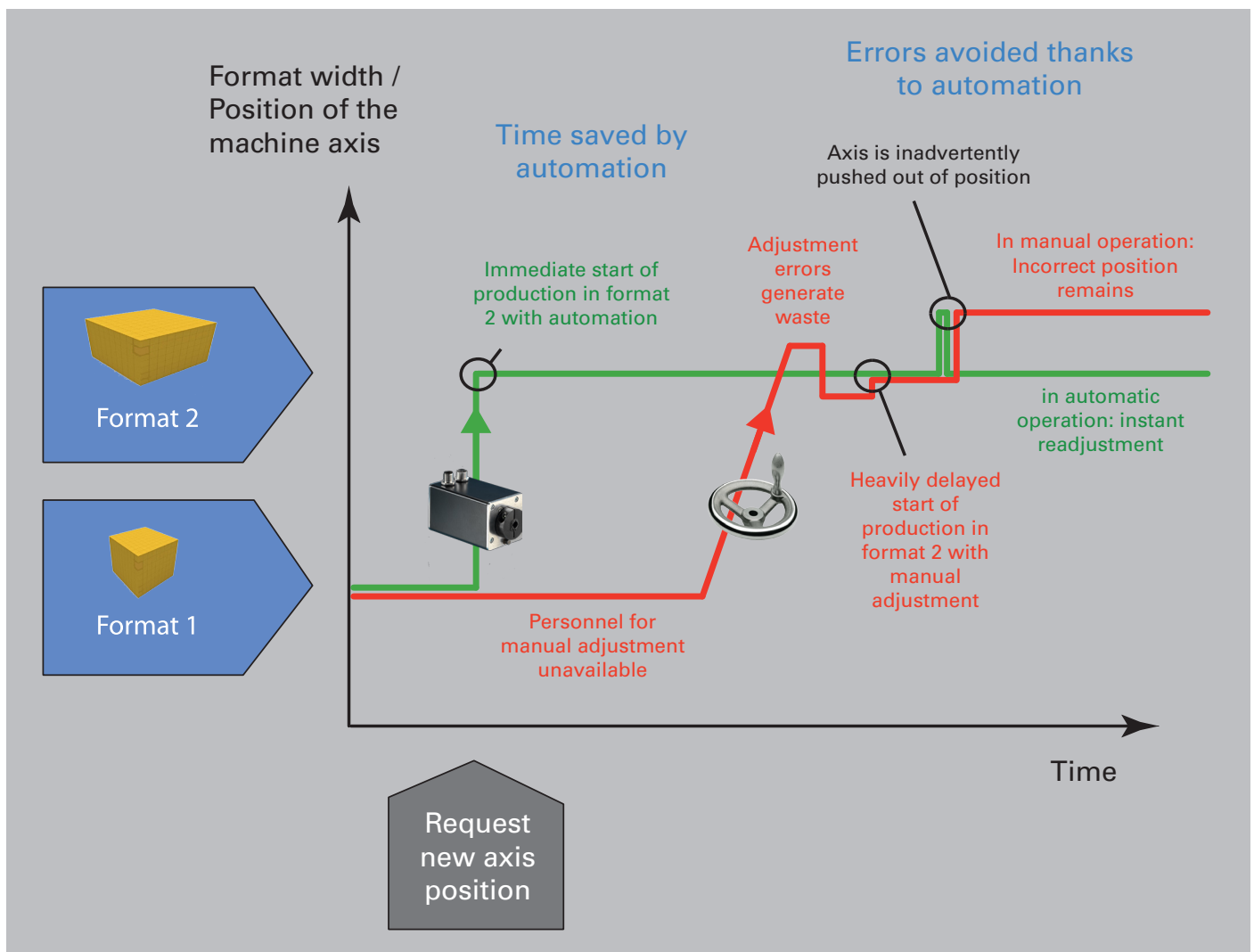


Fig. 1: Traditional advantages of automated format change over manual operation

With the PSE 3 series from halstrup-walcher, HOMAG has been using positioning systems that meet these requirements for years. „It was especially important to us to inform the users of our positioning systems early if they should take care of their machines. As long as possible moreover before failures or downtimes can occur,“ says Jürgen Walcher, CEO of halstrup-walcher, a medium-sized family business from Kirchzarten near Freiburg. An eye is naturally kept on the traditional parameters: temperatures, engine speeds, movement speeds. For a really preventive warning to be possible however, other sizes still have to be kept in mind.

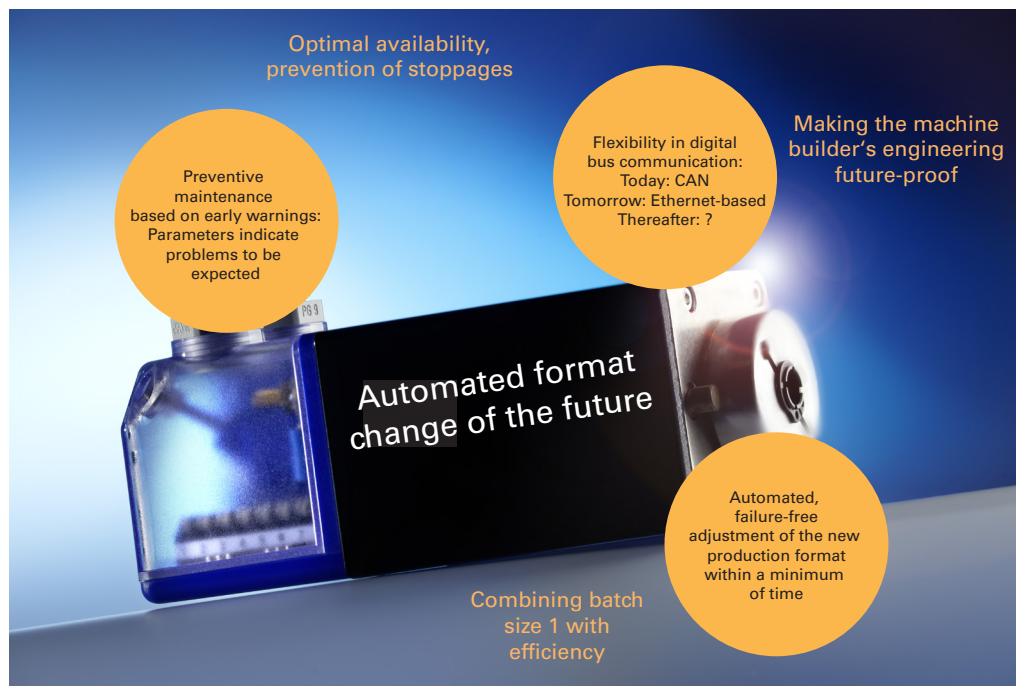


Fig. 2: Future trends of automated format adjustment



Fig. 3: Modern positioning systems on a wood processing machine

The actual power consumption for example is a very revealing parameter. If this matches the current operating conditions at any time, everything is OK. But if it increases even though the sequence of functions does not suggest this, the halstrup-walcher positioning system reports to the higherlevel controller.

Without losses in machine availability, the problem can thus soon be resolved, for example during the next planned maintenance interruption or as soon as the production schedule allows an interruption. Moreover, all relevant values can also be read „remotely“ by the controller during telemonitoring, which gives the machine builder’s service organisation ideal alternatives.

Jürgen Walcher: „Our slogan is ‚We provide format to your machine‘. We have thus done no less than challenge ourselves. Since then, ‚batch size 1‘ and ‚preventive maintenance‘ have become clear general principles in all our new developments. What’s more, if we’re moving with the times in digital bus communication, we can help our customers in mechanical engineering develop solutions that are both flexible and future-proof.“

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