

Stack lights above the converting machines at Moore Packaging make production crews more aware of machine status and enhance productivity.

GREEN, YELLOW, RED...

...THE COLORS OF PRODUCTIVITY

By Jackie Schultz

It's a very simple system, but it works, says Dan Faber, President of Moore Packaging in Barrie, Ontario. "We got the results we wanted."

Faber is referring to the lights hanging above each of the converting machines. Green, yellow or red lights are illuminated depending on the state of the machine. Green means that everything is fine. Yellow is a warning that the crews are close to missing their target run speed or setup time, and red means that the machine is down.

The stack lights were installed in December and hang from the roof of the facility. There are two lights for each machine. One is above the feed section near the operator and the other is at the takeoff section near the transfer cars.

The lights are positioned in a way that the supervisors can see all of them clearly, no matter where they are standing on the production floor.

"We were looking at improving setup times and run speeds," Faber says. "We always had the data at the end of the shift, day, week or month. As business and margins got tighter we couldn't wait until after the fact to do that analysis. We wanted to move the awareness of the production capabilities performance to like right now because every minute that goes by is lost. We thought of a simple traffic light system."



DAN FABER (LEFT), PRESIDENT AND PETER MOORE, CEO.

Plant Floor Productivity

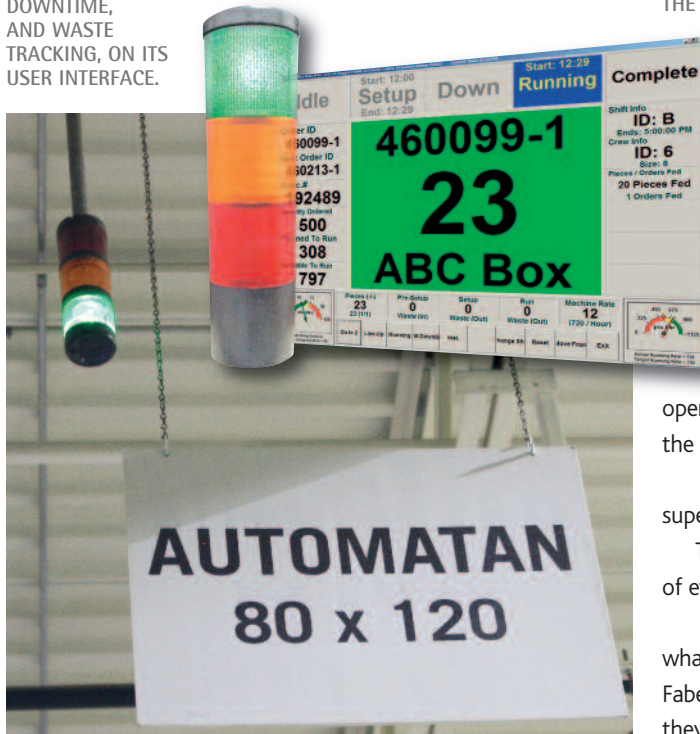
The lights are tied into CTI's CorrPlan Plant Floor Data Collection software system, which tracks a variety of information, such as setup times and run speeds for each order. In addition, the software displays real time machine lineups, run durations, downtime, and waste tracking on its user interface.

"We asked CTI to write a program that communicated with the PLC that sent the feed to the lights," Faber says.

"They wanted to take the data collection system to the next level which is providing them with motivational targets and displaying those targets to the operator in an easily viewable form," says Andrew Bennett, CTI Regional Account Manager for Canada and the UK/Europe. "In the last two years we've been adding and working with them to implement a Process Reliability and Waste Management system, which was driven heavily by their management team. They had some real strong ideas about how they wanted it to work and what they wanted it to achieve."

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THE STACK LIGHTS ARE TIED INTO CTI'S CORRPLAN PLANT FLOOR DATA COLLECTION SOFTWARE SYSTEM, WHICH SHOWS REAL TIME MACHINE LINEUPS, SETUP TIMES, RUN DURATIONS, DOWNTIME, AND WASTE TRACKING, ON ITS USER INTERFACE.



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How It Works

In addition to the stack lights, every machine has a computer display where operators can see more detailed information. For each order there is a specific set of targets for setup time and run speed.

"That information is stored alongside averages we use for scheduling purposes," Bennett explains. "The targets are posted out to the shop floor with each job that the operators are running. When they begin a job it shows them on the screen the target setup time and the target running speed.

"What we don't want to do is have the operators and the supervisors stand in front of terminals all day," he adds.

The overhead lights are a quick and easy way to see the status of every machine.

"This project was really to increase the visual awareness of what was going on right now both in the plant and in the office," Faber says. "Let's say a machine is supposed to run at 10,000. If they are running over 10,000, it's green. If they're running within 20% of the target, it's yellow, and anything below 8000 it's red. It's the opposite on setup time. It's not supposed to take more

than 20 minutes on setup. The light turns yellow between 20 and 24 minutes and red over 24 minutes.”

The information displayed on the machine terminals is also displayed on large flat screen monitors in Moore Packaging’s production office. Bennett describes the office as a command center with four screens linked to the CTI software and production floor cameras. Information about the corrugator is also displayed.

Faber also has a screen in his office that shows him actual speed and target speed. “The field that shows the speed will be red, green or yellow so I know whether they’re running to speed or not,” he says.

Getting Results

Moore runs eight presses, six finishing machines and a corrugator. After installing the stack lights the plant saw initial productivity improvements of 20-25%.

“We’ve seen a bit of tailing off but that’s our fault. It’s like anything new. It became a rallying point and we found that the lights meant a lot to the people and a lot of people wanted to run green,” Faber says. “My speeches talked about green is money and red means loss just like red ink. I

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tried to describe it in very simple terms. It’s still working, but the biggest challenge we find is managing it. Getting the supervisors to do those daily discussions and not treat it as a novelty but to make it a part of the daily routine and to continually get better.”

There are no incentives for the machine crews for running well, however, Faber says, “If a crew is continually underperforming they get chatted to.”

Faber says the production crews in the two-shift operation had to warm up to the idea of the lights. “They call them the Christmas lights because we put them in at that time of year. They initially scoffed, but it was up to the management to let them know it was serious and it was a good measurement tool.”

The next phase is to install the lights over the corrugator. “For every grade that is running there is an expected run speed,” Faber says.



THERE ARE TWO LIGHTS FOR EACH MACHINE. ONE IS ABOVE THE FEED SECTION NEAR THE OPERATOR AND THE OTHER IS AT THE TAKEOFF SECTION NEAR THE TRANSFER CARS.

LEFT: MOORE RUNS ABOUT 14 CONVERTING LINES AND A CORRUGATOR.