

The Secrets to Implementing Lights-Out Machining

Making a whole day productive requires strategy not staffing

Simon Richardson, Product Manager, ANCA

It's little wonder there's more and more interest in the potential of lights-out or unattended production. The benefits seem immediately obvious.

Staffing costs fall significantly if you can run equipment unsupervised, or with far fewer operators. Production capacity of the business greatly increases, offering the opportunity to add more customers without the expense of adding new equipment or staff.

It offers enhanced flexibility by allowing you to move longer-running jobs—that don't require supervision—to overnight, ensuring your skilled operators can be fully engaged with jobs where they're needed during working hours.

Another reality that's having a significant impact on the appeal of unattended production is the skills shortage. Finding and retaining skilled operators seems to be becoming more and more difficult, with a high likelihood that it'll be even harder in the future. Any opportunity to maintain the number of operators required and increase productivity can only benefit your business in the long run.

However, moving into lights-out machining can be a challenging transition and isn't as simple as automating a few processes and hoping for the best. There are a multitude of factors to consider and changes that need to be made to ensure your machine shop's ready to run unattended. But the improvements to efficiency and profitability make it an investigation well worth having.

Start Slowly

As attractive as the idea is of your business pumping out a day's worth of production while you're in bed asleep, there's no need to rush into it. If you have multiple machines, don't plan to put all of them into unattended production at once. Take one or two machines as a test case and see how it goes.

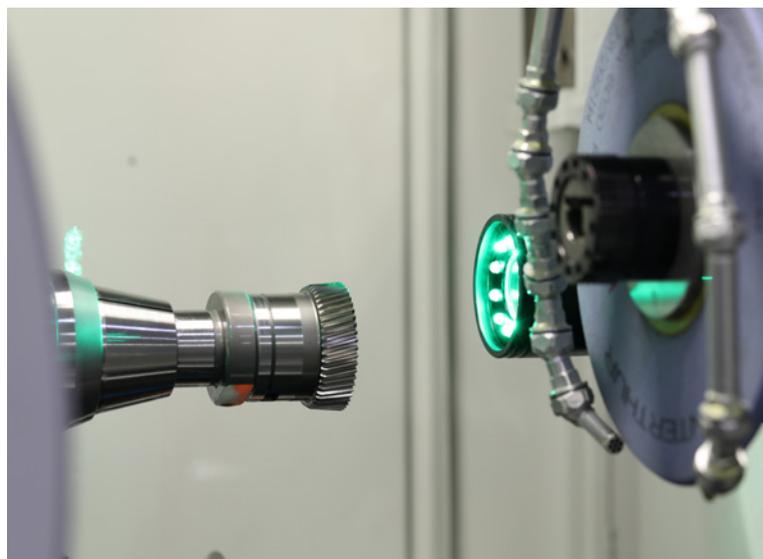
Similarly, don't try and get an entire production line ready in one go. Take incremental steps to test each section of the production process to discover potential issues when they're running unattended. Then, slowly build up to a fully operational production line.

Be Smart About the Jobs You Choose to Run Unattended

Initially, it's wiser to select simpler projects that are less likely to run into problems and need supervisor intervention. And remember, speed is less important than accuracy and reliability in lights-out production. You're not paying the same staff overhead, so if you can ensure greater quality by slowing down the process a little, it's worth it. Similarly, going slightly slower to avoid potential quality problems with your tools makes sense when you're having the machines work unsupervised.

Ideally, you won't run a job overnight, that hasn't been tested with operators present during the day. It's just asking for trouble not to check that everything works before you run it lights-out.

When It Comes to Lights-Out Machining, Preparation Is Key



The iView is a measuring system that evaluates tooling while still in the work-holding such as the ANCA GCX Linear skiving machine.

Ensuring a high level of preventative maintenance across every element of the process becomes even more vital if you're

There's more to running lights-out than simply having the automation in place that enables you to achieve it. Other elements of the process need to be up to the task, as well. Consider:

considering moving into lights-out production. Some little quirk of the machine that an operator just handles on the go can become a real problem when unsupervised. So, make certain your staff report even the smallest of issues that might cause problems.

Monitoring, of course, is invaluable. Take ANCA's REDAX, for example. This real-time monitoring software not only delivers up-to-date information about every machine on the floor but can send emails and SMS notifications to nominated recipients as needed.



REDAX offers complete visibility of a machine's status and activity.

It's also vital that you have the technology in place to guarantee quality control. There's no value in producing tools all night that are defective. A premium in-machine tool measurement system, like ANCA's LaserUltra, can automatically compare the tool with its required geometry and make the necessary compensation to ensure consistency.

- **How reliable are your services to the machines (such as power and air)?**
- **What happens if there's a power outage?**
- **Are your fire suppression systems adequate?**
- **Are your management of coolant and different coolant applications correct?**
- **Are your machines currently monitored remotely and how are operators notified of any issues?**
- **How adequate are your management and access to the correct grinding wheels inside the machine when needed?**

Maybe There's One Light On

It's worth pointing out that unattended production doesn't have to be taken literally. There are certainly benefits to having at least one operator supervising the night shift, even if they end up not having to do anything. Proper automation will ensure you receive a significant increase in productivity for the nominal cost of one wage.

Lights-Out Machining Can Really Move Your Business Forward

Approached deliberately, and with the appropriate planning, the introduction of unattended production can offer huge benefits to your bottom line. And the changes you make to your processes to allow you to embrace it will increase your productivity and profitability both day and night.

anca.com



For Related Articles Search

lights-out manufacturing

at geartechnology.com



Spiral Bevel Gears

- Spiral & straight bevel gear manufacturing.
- Commercial to aircraft quality gearing.
- Spur, helical, splined shafts, internal & external, shaved & ground gears.
- Spiral bevel grinding.
- Midwest Transmissions & Reducers.
- ISO compliant.



Midwest Gear & Tool, Inc.
15700 Common Rd., Roseville, MI 48066
Tel: 586.779.1300 mwgear@midwestgear.net

