Bright Ideas for Lights-Out Manufacturing

CNA

Lights-out manufacturing – a production process in which automated machinery operates continuously with little to no human intervention – is gaining popularity as companies seek to reduce labor costs and boost efficiency. Before your organization considers partial or full automation, use this checklist to enhance process and material safety and reduce potential exposures.

Process & Material Safety

- Confirm no use of flammable or combustible chemicals or materials that increase risk, like magnesium, flammable solvent or oil-based coolants.
- Ensure equipment and processes are not prone to catastrophic failure scenarios.
- Check that workpieces are securely fixtured to prevent loosening during unattended runs.

Pre-Run Validation

- Only assign jobs that have been proven to be reliable during fully manned shifts.
- Conduct a supervised test run for program changes before lights out.
- Confirm no need for mid-job adjustments such as wear offset changes.

Equipment & Tooling Readiness

- Inspect components for signs of wear or damage. Secure loose parts and exposed wires.
- Verify coolant alignment, reservoir levels and fully operational compressed air systems.
- Clear debris. Use automation aids to prevent jams and bird nesting.
- Ensure lubrication systems are filled and functioning.
- Run machines conservatively for safety margins.
- Confirm machines maintain precision despite temperature changes.
- Test emergency stop functionality.

Operational & Strategic Planning

- Conduct ROI and phased investment analyses before transitioning to lights-out manufacturing.
- Integrate supply chain automation and build redundancy to mitigate disruptions.
- Employ real-time data analytics and establish strong data governance for operational insights.
- Develop a technical resource guide and response protocol for automation-related risks.
- Automation often shifts exposures. Ensure insurance coverage reflects current risk profiles.

To learn more about how CNA tailors insurance solutions to each manufacturer's unique risks, visit **cna.com/manufacturing.**

Monitoring & Risk Controls

- Implement robust monitoring and alert systems, including fire alarms and automatic suppression systems.
- Ensure cybersecurity protocols are in place with regular software updates and patching.
- Utilize AI-driven monitoring with fallback protocols to handle unexpected scenarios.
- Schedule and maintain predictive maintenance with trained specialists.