



Automation Checklist for CNC Manufacturers

Pre-
Deployment

Audit Your Machines, Capacity, and Efficiency

- Review the inventory of current machines (lathes, mills, grinders, etc.)
- Evaluate the efficiency and downtime of each machine
- Collect feedback from machine operators on regular challenges and machine issues

Identifying Tasks for Automation

- Identify processes that require consistent human intervention, like material loading / unloading and measurement
- Spot operations that have high variability or reject rates
- Pinpoint tasks that pose safety risks or ergonomic challenges to workers

Assessing Your Team's Skills and Potential

- Gauge the Operators' familiarity with digital tools, CNC programming, or robotic interfaces
- Assess the willingness of your workforce to undergo training
- Recognize existing expertise that can be leveraged and upskilled

Conduct Budget and ROI Analysis

- Itemize costs related to automation tools
- Estimate your efficiency gains (throughput, quality, injuries)
- Calculate ROI, considering savings in labor, increased production, and reduced waste

Other Commonly Overlooked Items

- Consider the challenges of integrating new systems with legacy equipment
- Evaluate spatial constraints as automated tools might require reconfiguring shop layout

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on pg.2*

Pre-
Deployment
(continued)

Work with Automation Experts on Selecting the Right Technology

- Robots: Collaborative, Traditional, Gantry
- Pallet Pull Systems
- Grippers: Vacuum, magnetic, jaw

Post-
Deployment

Update Your Workflow Analysis and Identify Bottlenecks

- Monitor production rates with automation
- Track component wait times
- Assess the time required for machine changeovers

Continuous Training and Feedback Cycles

- Collect regular feedback from your team
- Encourage cross-training for versatility

Manage Resistance to Change

- Open communication: Ensure your workforce understands the reason for change and the benefits to them and their job
- Involvement: Engage employees in the automation process, making them feel part of the transition
- Promotion and opportunities: Upskill and provide opportunities for employees to grow and take on more responsibility (i.e. Automation Manager)

Implement, Revisit, Revise Safety Protocols

- Assess zones of potential human-robot interaction
- Implement emergency stop mechanisms
- Review safety barriers, sensors, and signage

Implement Maintenance Routines

- Document and schedule routines
- Replace worn-out components
- Continuously check for SW updates and calibrations

Adapting and Scaling Automation

- Modular systems: Opt for automation systems that allow for easy expansion or modifications
- Regular assessments: Periodically review automation versus business needs and growth

Is this too overwhelming?
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