The 4 Pillars of Operational Excellence

Discover What Excellence Looks Like On The Factory Floor

Defining Operational Excellence

Operational excellence is a bit of a buzzword in manufacturing, but it's one you can't afford to ignore. Maybe you think you can't achieve excellence.

It's difficult when you're facing pressing issues like:

- outdated equipment and technology
- resistance to change across your workforce
- trying to keep operational costs down

It's a delicate balance, but you can start taking steps, no matter where you are right now. Modular smart manufacturing tools help lay the foundations of excellence.

The first step is to understand what operational excellence actually looks like in manufacturing and which tools and strategies you need to get there.

In this brief guide, we'll map out the four pillars of operational excellence and practical steps to achieve it.

> Operational excellence is a set of behaviors, mindsets, and daily practices that is intimately tied to the organization's reason for being.
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> www.mckinsey.com
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> Joris Wijpkema
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The 4 Pillars of Operational Excellence

Agile Processes

- Cut downtime with autonomous maintenance
- Adapt to change with dynamic production ordering
- Smooth material flow with real-time inventory visibility
- Automated workflows and alerts
- Sync ops from order to delivery with ERP integration

Minimal Waste

- Identify and resolve defects early
- Reduce consumption with energy monitoring
- Resolve issues quickly with downtime alerts
- Optimized changeovers
- Reduce manual paperwork with digitized procedures

High-Quality Output

- Real-time quality data and rapid feedback for corrections
- First-time-right metrics
- Ensure spec compliance with automated SPC analysis
- Digital workflows and standardized processes for consistency
- Minimize variability with operator checklists
- Sustain high performance with preventive maintenance

Culture of Excellence

- Gemba walks and S5 audits to make the factory floor safer
- KPI tracking and reviews for accountability
- Digital training content to engage and up-skill workers
- Harness operator insights with idea collaboration
- Sustainability tracking tools to reduce environmental impact
- Achieve continuous improvement with data feedback loops

Pillar 1

Agile Processes

Agile processes help to overcome data silos and make sure your operations react to changes as efficiently as possible.

The first thing you need to do is get organized and connected.

Start with workflows and processes that are easier to automate. For instance, apply simple, yet powerful smart factory modules to automate elements of:

Autonomous Maintenance
Empower operators to carry out basic scheduled maintenance tasks, such as Clean, Inspect, Lubricate (CIL) and defect tracking

Production Ordering
Automate production orders which makes it easier to adapt to changing customer demands

Smart manufacturing tech and digital tools such as ERP systems make your processes work together more smoothly.

Actionable Tips

Start with a small pilot project, such as autonomous maintenance on a critical machine

Automate key workflows including production ordering and quality management

Gradually integrate real-time data monitoring

Apply smart manufacturing and ERP solutions to unify operations

Reduce waste and cost by applying Lean manufacturing strategies such as early defect detection and resolution.

For instance, an **autonomous maintenance** strategy ensures operators record all machine defects, no matter how small. Data is stored centrally and follow-up action alerts are automated. This prevents small defects from building up to machine failure.

Energy consumption monitoring is another quick win. Use smart meters and IIoT devices to manage energy usage in real time.

Digitizing procedures helps to eliminate manual, time-consuming tasks. For example, digitizing quality control checklists saves time and reduces errors.

Pillar 2

Minimal Waste

Actionable Tips

Implement digital tools to record and track machine defects

Use smart meters and IIoT devices for real-time energy monitoring

Integrate a predictive maintenance system for key equipment

Start digitizing manual workflows, beginning with areas that have the most paperwork

Pillar 3

High-Quality Output

For consistently excellent output, you need to make sure everyone is on the same page. Processes should run as smoothly as possible by integrating digital technology to capture and display real-time data.

For instance, digitizing workflows and checklists means you get standard processes. This leads to better, higher quality output.

Preventive maintenance also adds to the consistency of your throughput by helping avoid unexpected equipment failure and unplanned downtime.

Actionable Tips

Add automatic data capture to your most critical production line

Digitize key operational checklists to ensure uniform procedures

Schedule preventive maintenance checks for key machinery

Pillar 4

Culture of Excellence

You need to make sure your team is aligned with your goals and fully engaged in achieving them.

One effective way to build a culture of excellence is to implement lean methodologies that include all workers – from factory floor to top floor.

For example, Gemba walks involve leaders going to the production floor and observing and interacting, which is great for understanding and improving processes.

S5 audits also help to maintain order and cleanliness, leading to improved efficiency and safety. Automated KPI tools allow you to track progress towards your goals.

Actionable Tips

Stay connected with regular Gemba walks on the factory floor

Implement S5 audits to maintain a clean and efficient workspace

Set clear KPIs and track them using digital tools

Fast-Track Operational Excellence with us

O3OZONE is a ground-up smart manufacturing platform that integrates seamlessly with your existing systems and machinery.

O3OZONE bridges the gap between legacy and advanced tech, meaning you can connect and collect data from all your assets, regardless of communication protocols such as PLC, SCADA, or IIoT.

Contact Us Today

Custom Configuration

Our team works closely with you to configure O3OZONE in a way to best fit your operational needs and result in minimal disruption.

Training and Support

O3OZONE ensures that everyone, from shop floor workers to top management, can use our platform with full training and support. We provide ongoing support and updates to ensure continued operational excellence.

Security and Reliability

O3OZONE prioritizes data security with state-of-the-art cybersecurity and encryption protocols.

We deliver consistent and reliable performance, ensuring that your operations are always running at peak efficiency.