


Manufacturing Operations Management



Increase productivity, minimize loss and lower production costs with SYSPRO's Manufacturing Operations Management solution.

To gain the competitive edge, manufacturers need to be agile to respond to market demands at all levels of operation without increasing costs and waste or sacrificing efficiency. Attitudes towards new technologies can mean the difference between success and failure. Industry 4.0 – the 'Fourth Industrial Revolution' – is still in the early days of adoption, but the changes it promises are profound. Over the next decade, forward-thinking businesses will transform themselves through connectivity, data, automation, and an increasingly sophisticated workforce.

SYSPRO's Manufacturing Operations Management Solution can help you revolutionize your company to gain competitive advantage in today's market. It provides complete manufacturing lifecycle management from planning, scheduling, publishing, collecting, tracking and analyzing to optimize and improve end-to-end manufacturing operations. Together with SYSPRO's ERP this Manufacturing Execution System (MES) offers a unique level of delivery, cost and quality control of manufacturing operations for job shop, batch production, production line and mixed mode environments.

The solution helps manufacturers:

- Measure performance to drive toward world class standards of operation for overall equipment effectiveness (OEE), total effective equipment performance (TEEP) and overall labour effectiveness (OLE)
- Increase productivity and lower costs by minimizing loss within the business
- Optimize operational efficiencies through better workflow of core manufacturing activities: schedule, publish, collect, track, analyse and improve
- Connect machines and other devices to digitize the factory (Industry 4.0).

Manufacturing Operations Management enables organizations to generate accurate schedules that consider constraints around people, machines, tooling and materials. Manufacturers are then able to ensure they make best use of their available capacity to deliver to customers faster and in the most cost-effective way, with reduced production costs.

The solution can help you take control of your manufacturing operations and start to:

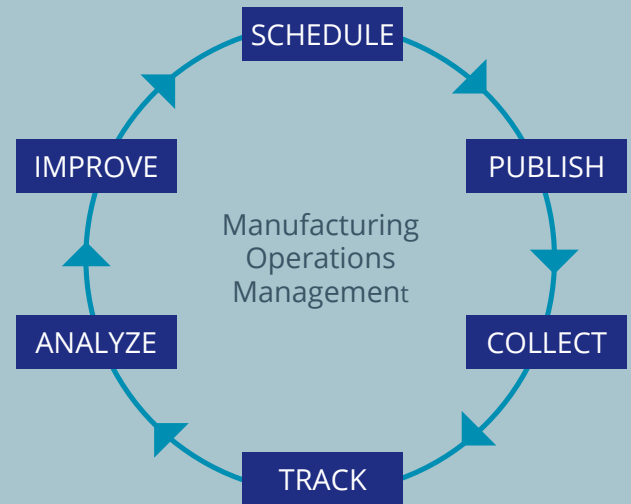
- Deliver to your customers faster
- Control labour and machine costs
- Reduce downtime and bottlenecks
- Measure and improve product quality
- Increase productivity and output
- Reduce cost to compete.



A 360° View of Production

Manufacturing Operations Management supports your complete manufacturing lifecycle, providing you with a 360° view of your production. This solution enables you to automatically connect with machines in order to read data without manual inputs.

- **Schedule** – quickly and accurately schedule to maximize order fulfilment and resource utilization;
- **Publish** – publish schedules and job lists with the shop floor and other departments easily;
- **Collect** – collect data from the shop floor from humans and machines;
- **Track** – gain real time visibility of employees, equipment and jobs;
- **Analyze** – access out of the box analytics for OLE, OEE and TEEP;
- **Improve** – drive continuous improvement with Six Big Loss analytics, online documents and more.



Any Device Anywhere

SYSPRO's Manufacturing Operations Management solution makes use of the latest technologies to provide a modern and intuitive, browser-based user interface, allowing you to gain visibility over any stage of the manufacturing process, from any device.

Smart Factory

SYSPRO's innovative solution enables you to **Connect Equipment** to digitize your factory by collecting data from your machines and other devices automatically. This capability allows SYSPRO to 'talk' to devices, using this data to optimize and streamline the business. In terms of future-proofing your business by embracing industry 4.0, the technology offers the foundation to building your Smart Factory. By embedding interactive technology in key machines, manufacturers can look to creating more intelligent manufacturing processes - Combining humans with machines, resources with processes and systems.

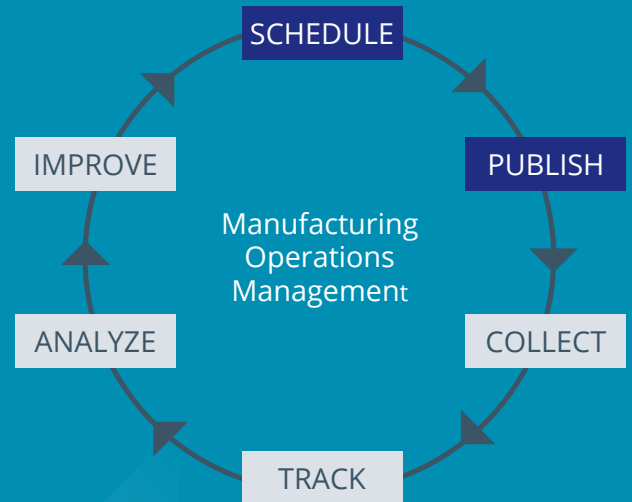


Advanced Planning and Scheduling

Planning and scheduling is a major challenge for many organisations. The variables within processes can make or break a company, and unsatisfactory production planning leads to high operating costs and customer delivery problems.

SYSPRO's Manufacturing Operations Management Solution incorporates an advanced, finite capacity based, planning and scheduling (APS) system allowing you to quickly and accurately schedule while minimizing downtime.

The solution enables organisations to create accurate schedules that factor in constraints around tooling, machines, personnel and inventory. Manufacturers are then able to make smarter use of materials and resources helping them deliver to customers faster and in the most cost-effective way possible.



Manufacturing Operations Management meets all of your production planning and scheduling needs:

- **Visual Planning Board** – define your resources and their available capacity by the shifts that they operate. Create, optimize and share your production schedule online. Publish job lists to your resources for easy data collection.
- **Dashboard** – balance equipment utilization and order fulfilment to maximize factory output. View your most/least utilized resources, top orders by value and popular products by volume.
- **Production Plan** – view the agreed production plan. List and/or print shop packets. Review progress including hours reported, quantities produced and issues logged to expedite and/or provide delivery information.
- **Equipment Plan** – review the impact of the production plan on your equipment. Drill into each equipment card to view loading detail and expected daily output.
- **Production Status** – review open jobs to check their status. Use progress bars to gain visibility of hours booked, materials issued and overall progress at a glance. Drill to view specific job details including attached documents and issues recorded.
- **Material List** – view specific material requirements by individual resources for today or this week designed to support cell manufacture and for use with mobile and/or tablet devices.
- **Job Lists** – view job lists by resource groups for today or this week designed for use with mobile and/or tablet devices.
- **Production History** – view activity history in relation to both open and closed jobs.

Benefits include:

- Flexible and simple to use
- Easily create, update and share schedules
- Shorten delivery times with smarter use of materials and resources
- Give accurate customer promise dates by quickly simulating scenarios based on real capacity.

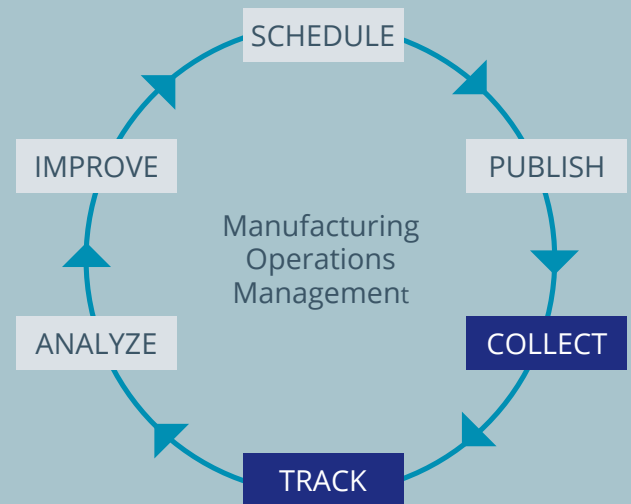


Shop Floor Data Collection and Tracking

Frontline managers need complete visibility and control of the shop floor to prevent problems such as overruns, bottlenecks, downtime, poor employee or machine performance and excessive scrap. Collecting this data by conventional methods can be complicated, time-consuming and expensive.

SYSPRO's Manufacturing Operations Management Solution incorporates shop floor data collection (SFDC) from your employees and equipment with options to automatically connect your machines in order to read data without manual inputs, helping to digitize your factory (Industry 4.0).

The solution provides manufacturers with real-time shop floor visibility, helping to eliminate manual processes and increase productivity. It enables you to execute production plans while simply and accurately capturing and measuring activities on the factory floor such as labor hours, materials issued, quantities reported, scrap and more.



Manufacturing Operations Management meets all of your shop floor data collection and tracking needs:

- **Workbench** – collect data both on and off the shop floor from your employees or equipment in real-time using a “stopwatch” style of recording for accuracy. Data recorded here is used to support the calculations of overall labor effectiveness (OLE) and overall equipment effectiveness (OEE).
- **Connect Equipment** – digitize your factory by collecting data from your machines and other devices automatically.
- **Dashboard** – high level view of your orders, products, employees and equipment. Select specific employees and equipment to view status and performance for a selected time period.
- **Employee Status** – at-a-glance live view of your employees, what their current status is, what they are working on, and how they are performing during their shift. Drill down into each employee card for a detailed view. Use status indicators to access their workbench to help with clocking and other management issues.
- **Equipment Status** – at-a-glance live view of your equipment, what the current status is, what jobs they are running, and how they are performing during the shift. Drill down into each equipment card for a detailed view. Use status indicators to access the equipment workbench for management purposes.
- **Job Status** – review open jobs to check their status. Use progress bars to gain visibility of hours booked, materials issued and overall progress at a glance. Drill down to view specific job details including attached documents and issues recorded.
- **Transaction Review** – review (edit, delete, add) and/or approve all transactions generated via the workbench or entered from timesheets. Automated, scheduled posting of approved transactions to SYSPRO for financial analysis. Manual “sync now” option also available. Export to payroll systems (optional).
- **Employee Performance** – detailed analysis of an individual equipment performance with supporting detail including audit trails and a record of the issues encountered.

- **Equipment Performance** – detailed analysis of an individual equipment performance with supporting detail including audit trails and a record of the issues encountered.
- **Management Reports** – analytics associated with employee availability (uptime/downtime) for management purposes. Includes daily clock hours reconciliation and option to create custom management reports using pivot tables.

Benefits include:

- Simple and accurate data collection
- Real time status tracking of jobs, employees and equipment
- Powerful employee and equipment performance analysis
- Seamless integration with SYSPRO ERP
- Option to export data to your payroll systems



Factory Digitization

Helping you take the first steps towards Industry 4.0 and the digitization of your factory. SYSPRO's Manufacturing Operations Management provides the platform to digitize your factory by allowing you to connect machines measuring equipment and other devices. You can automatically connect with machines in order to read data without manual inputs.

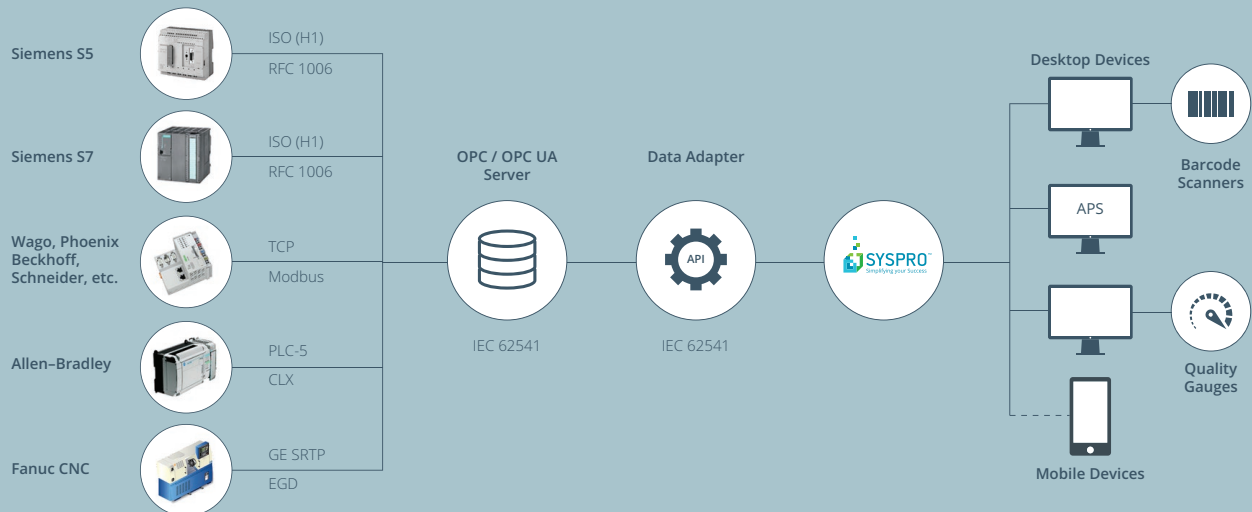
Gain real time visibility of:

- Start/stop and downtime
- Job assignment
- Operation status (e.g operation completed)
- Machine status (e.g. warming up; idle; running; down)
- Parts count (total, good and bad)
- Component count (total, good and bad)
- Performance issues (e.g. slow running; equipment wear; component jam)
- Custom values (e.g. temperature; pressure; spindle speed)



How it Works

Depending on whether your machines are already data enabled or not, you will need a sensor capable of capturing data in relation to the activities above. These sensors provide raw machine data which needs to be recorded centrally before being transformed into readable data.



Manufacturing Operations Management uses OPC unified architecture (IEC62541) to allow information to be easily and securely exchanged (<https://opcfoundation.org/>). Once data has been converted it can be published and then analysed within the solution.

Integration Services

Digitisation of your factory requires specialist hardware, software and skill sets. SYSPRO's machine and device integration services are there to help to get you started. We can evaluate and assess the equipment you have and provide guidance regarding the hardware (servers and sensors) you need, saving you time and money.

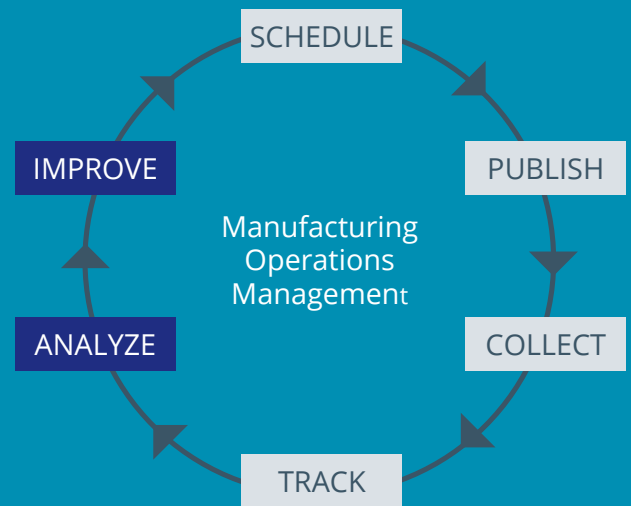
Become part of the revolution to stay competitive by embracing the industrial internet of things and establishing your path towards industry 4.0.

Factory Performance Analysis and Loss Management

If you can't measure it, you can't improve it...to increase your productivity and lower production costs you need to benchmark your performance and minimize loss within your manufacturing process.

SYSPRO's Manufacturing Operations Management solution provides out of the box factory performance and loss analytics to allow your organization to drive to world class standards for overall labor effectiveness (OLE), overall equipment effectiveness (OEE) and total effective equipment performance (TEEP).

The solution utilizes Six Big Loss analysis to identify, classify and quantify your loss enabling you to determine the countermeasures that will help to reduce them.



- **Loss Management** – dashboard realization of loss across your manufacturing operations with every loss identified, classified (Six Big Loss) and quantified to allow for counter measures to be applied and continuous improvement to be made.
- **Dashboard** – factory level analytics of your equipment showing both OEE and TEEP key performance indicators. Drilldown to supporting metrics and measurement of Loading, Availability, Performance and Quality.

- **Employee Analysis** – detailed analysis of your employee performance. Filter by individual employees or analyze performance for a specific group of employees. Further analyze by date or diversion.
- **Equipment Analysis** – detailed analysis of your equipment performance. Filter by individual equipment or analyze performance for a specific group of equipment. Further analyze by date or diversion.
- **Product Analysis** – output and quality analysis for your products by employee and/or equipment.
- **Loading** – detailed analysis of the loading position of your resources with comparisons to last month and/or quarter to understand trends. Use this to compare your planned uptime with all the time available (calendar time) to gain insight of asset utilization to support capital expenditure and other management decisions.
- **Availability** – detailed analysis of the availability of your employees or equipment with comparisons to last month and/or quarter to understand trends. Use this to gain insight of your actual uptime compared with your planned uptime and see where unplanned downtime occurs in relation to equipment breakdowns, tooling failures, operator shortages and more.
- **Performance** – detailed analysis of the performance of your employees or equipment with comparisons to last month and/or quarter to understand trends. Use this to gain insight of why your actual run rates differ from your planned run rates and see where performance loss occurs in relation to operator inefficiencies, equipment wear and tear, minor stops from component jams and more.
- **Quality** – detailed analysis of the quality output from your employees or equipment with comparisons to last month and/or quarter to understand trends. Use this to gain insight by resource of where product quality issues have affected your output.

Benefits include:

- Out-of-the-box analytics
- Lower production costs and higher margins
- Increased productivity and output
- Competitive advantage



Lean Manufacturing and Continuous Improvement

To gain a competitive advantage in the global marketplace you need to benchmark performance of your resources against world class standards and then work to improve them.

SYSPRO's Manufacturing Operations Management solution helps to drive lean six sigma continuous improvement initiatives with management alerts, issue logging and workflow, online documents and more.

- **Management Alerts** – receive performance management alerts to improve efficiencies and prevent issues becoming problems.
- **Messaging** – send and view messages to and from the shop floor.
- **Issue Workflow** – view, assign and resolve custom and/or performance related production issues.
- **Paperless Shop** – manage and maintain static attachments or online forms related to jobs, operations, employees, equipment. Add hyperlinks to videos and/or document management systems where audit trail or document versioning control is required.
- **Anytime, Anywhere** – access mission critical information whenever and wherever you need it via tablet and/or mobile devices.
- **Safe and Secure** – sign in authentication with full organizational control to restrict information that can be viewed by workgroup or individual.
- **Quality Assured** – the solution has been formed around the globally recognized standard for manufacturing operations management, IEC62264 providing the tools and analytics essential for effective manufacturing operations management to help you compete in today's market.

About SYSPRO

Established in 1978, SYSPRO is an industry-built Enterprise Resource Planning (ERP) solution designed to simplify business complexity for manufacturers and distributors worldwide. SYSPRO provides an end-to-end, business solution for optimized cost control, streamlined business processes, improved productivity, and real-time data analysis for comprehensive reporting and decision-making. SYSPRO is highly scalable and can be deployed either in the cloud, on-premise, or accessed via any mobile device.

What sets SYSPRO apart is an unwavering, sustained focus on the manufacturing and distribution sectors. Combined with a practical approach to technology and a passionate commitment to simplifying business processes, SYSPRO dedicates itself to the success of its partners and customers alike.

SYSPRO applies its resources to the advancement and improvement of the complex and changing needs of its customers. Recognized as a leader in customer service, SYSPRO has one of the highest customer retention rates in the industry.

SYSPRO's intuitive product features, business intelligence capabilities, and easy deployment methodology are unmatched in the marketplace. The depth of software functionality and targeted industry knowledge makes SYSPRO an excellent fit for a number of select manufacturing and distribution industries, including food and beverage, machinery and equipment, electronics, fabricated metals, automotive, and many more.





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