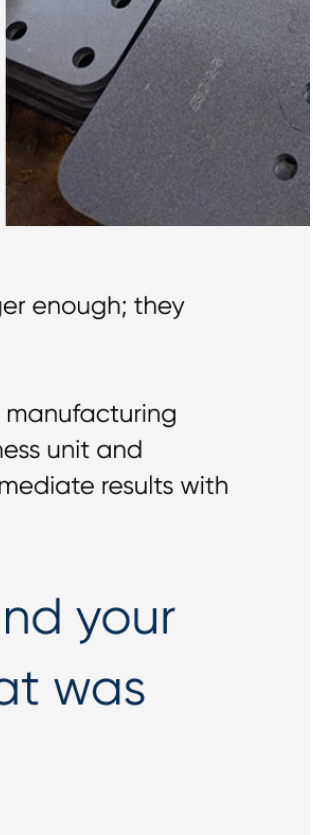
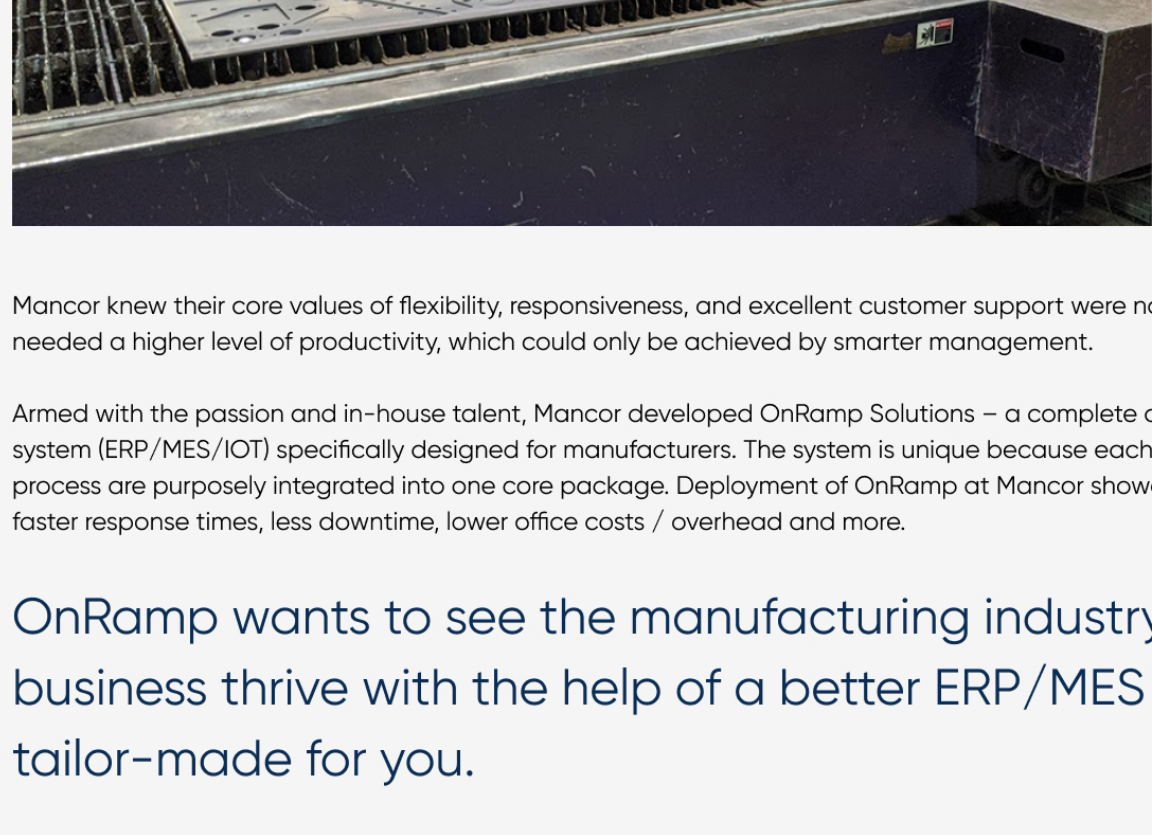


Nesting Information Package 2020

Nesting: A Comprehensive Guide

Mancor Industries is a world class precision manufacturer of components and sub-assemblies that use metal cutting, forming, machining, welding, assembly and more.



Mancor knew their core values of flexibility, responsiveness, and excellent customer support were no longer enough; they needed a higher level of productivity, which could only be achieved by smarter management.

Armed with the passion and in-house talent, Mancor developed OnRamp Solutions – a complete digital manufacturing system (ERP/MES/IOT) specifically designed for manufacturers. The system is unique because each business unit and process are purposely integrated into one core package. Deployment of OnRamp at Mancor showed immediate results with faster response times, less downtime, lower office costs / overhead and more.

OnRamp wants to see the manufacturing industry, and your business thrive with the help of a better ERP/MES that was tailor-made for you.

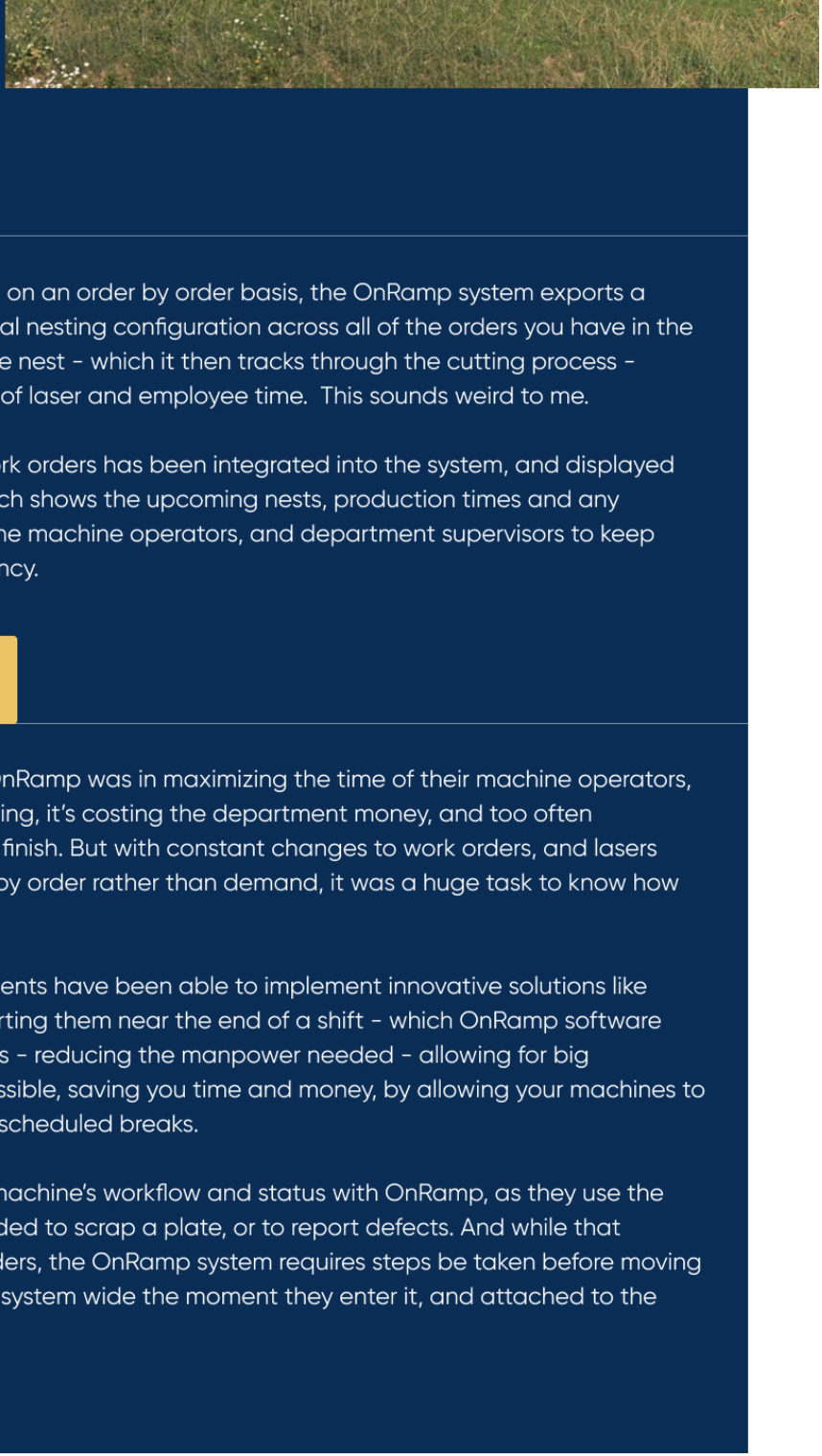
What is Nesting:

If you're unfamiliar with the modern technologies used in manufacturing and fabrication operations today, you may not have heard about nesting, a method which has changed the industry in a major way. The term nesting refers to the process of laying out a series of shapes, cuts, and patterns in a way that optimizes material use, and minimizes raw material waste. Before PCs, cutting machines were programmed using lengths of perforated tape generated by mainframe computers. This combined with the rise in availability of CNC machines soon evolved into software that could translate CAD drawings into output code that controls a cutting machine, such as a laser, plasma, oxyfuel, waterjet, or saw.

Nesting software has been a game changer for the manufacturing industry, allowing for less material waste as nests are designed to optimize cuts and space on a sheet, more efficient use of machine time as each machine is able to cut out complex nests with one order, and saving hours of valuable time in translating CAD drawings to cut patterns.

OnRamp is the only system that brings nesting into your overall manufacturing process, combining it with laser scheduling, materials management, output reports, and does so with only the click of a button, all in the same enterprise resource planning (ERP) software, integrated seamlessly with your favourite nesting CAD/CAM software.

In the same way that nesting streamlined the process of layout and material use, OnRamp has gone one step further to streamline the process by taking those factors, and integrating them into your overall manufacturing workflow. Scheduling laser productivity to optimize working hours, scheduled downtime, and material availability, OnRamp can show you in an instant which orders are next in the queue, when things will be stalled due to a missing part, or if machine capacity is balanced – and let's you make changes on the fly, whether you're on the shop floor, or visiting another plant.



Export Demand

While most ERP integrations today only work with nesting on an order by order basis, the OnRamp system exports a order's demand, which it can then distribute to the optimal nesting configuration across all of the orders you have in the queue. Combining demands from multiple orders into one nest – which it then tracks through the cutting process – allows for better nesting configurations and optimization of laser and employee time. This sounds weird to me.

What has traditionally been managed through paper work orders has been integrated into the system, and displayed with real time changes through the machine monitor, which shows the upcoming nests, production times and any maintenance needed. These are all monitored by both the machine operators, and department supervisors to keep both the personnel and machines running at peak efficiency.

Manage Labor and Increase Accountability

One of the problems that Mancor wanted to solve with OnRamp was in maximizing the time of their machine operators, and department staff. Every second a machine isn't running, it's costing the department money, and too often operators were left standing around waiting for plates to finish. But with constant changes to work orders, and lasers running at different speeds, and the nesting being done by order rather than demand, it was a huge task to know how to schedule staff.

By using OnRamp to handle their nesting workflow, our clients have been able to implement innovative solutions like scheduling longer automation run times over lunch or starting them near the end of a shift – which OnRamp software lets you see at a glance; or staggering end times for nests – reducing the manpower needed – allowing for big productivity gains with as little operator downtime as possible, saving you time and money, by allowing your machines to keep working as your operators take their well deserved, scheduled breaks.

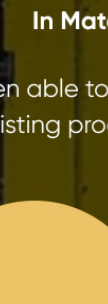
Operators also play a higher role in accounting for their machine's workflow and status with OnRamp, as they use the shop monitor to report many sheets were cut, if they needed to scrap a plate, or to report defects. And while that information might get lost in the shuffle of paper work orders, the OnRamp system requires steps be taken before moving onto the next nest, keeping that information up-to-date system wide the moment they enter it, and attached to the operator who is logged in for that machine.

Does Your ERP Manage the Nesting Process Effectively?

Take your fabrication to the next level by integrating nesting into your overall enterprise resource planning and workflow with OnRamp.

Production can't run as effectively when you need to switch from your CAD program to your enterprise resource planning (ERP) software to work with your nesting program, taking a series of steps, workarounds and tribal knowledge which can result in problems and hiccups each time they're used, often requiring a full-time employee simply to manage the nesting process.

This is why OnRamp integrates your preferred nesting program within the ERP, ensuring the various parts of your production process are connecting with each other in the most effective way possible. When the systems work seamlessly together, a work order change doesn't need to result in more paperwork and confusion. Quantities, materials, nests and more are updated in the software and are immediately sent to all systems affected, which can adjust nesting needs, or check for materials / parts needed as a result.



“Gone are the days when lengthy consulting projects were required to get the independent software products to communicate with one another. (Nesting software integration leads to improved performance)”

Derek Weston
(The Fabricator)

An ERP Designed with a User-Centric Approach

OnRamp was designed and tested by a team of people working with their boots on the ground of the machine shop, allowing them to solve the problems they were seeing day-to-day, making the software work harder for them, the way that makes the most sense for people just like you.

The interface will notify you immediately with any issues in the schedule once an update has occurred, and lets you respond to those errors with the touch of a button. Drag the updated order to a new laser with more capacity, or bump it in urgency to the next available laser when the client just called in a rush order. The machine operators will get the new orders in real time on the shop monitor and can foresee any concerns for the day at a glance, along with tracking cut times, detecting down times, and reading important work instructions.

The Benefits of OnRamp's Nesting Module

OnRamp together with Mancor imagined that full integration of their ERP and MES systems with their existing nesting application, would result in improved coordination between department supervisors, machine operators and the more importantly the customer's order. OnRamp worked with end users of these systems like yourself – to make nesting more efficient, easier to use and teach, while tracking the nest once it's been released.

As a result of this integration of nesting into the manufacturing value chain, OnRamp customers have achieved significant business improvements such as:

60% Reduction In Labor Costs	50% Increase In Production Output	25% Increase In Material Utilization	100% Increase In Schedule Attainment
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More importantly OnRamp customer's like Mancor have been able to respond to customers drop requests, or requests required to improve a quality issue with no impact to the existing production schedule. Would you like to see how OnRamp can make your Nesting work better?

THE BENEFITS

Scheduling the Lasers Was a Paper Shuffling Task

OnRamp has taken the paperwork shuffling and machine downtimes out of the manufacturing process, by moving them along with other previously separate tasks into one integrated system.

With just a few clicks, you can drag and drop nests and orders – sending them to different lasers, re-ordering them to ensure the needed parts are ready in time, and automatically accounting for the difference in laser speeds, while drop-in orders are handled where they make sense, saving you and your clients time.

A Management Interface That Will Keep Your Employees Invested

By bringing the nesting module into the ERP software, and making it easy to make changes with a swipe on a touchscreen, OnRamp has made it fun to manage the schedule for the day. By adding a level of modern gamification for the user, department supervisors have the visual incentive to aim for higher and higher levels of productivity for the day and week, just like playing a video game!

By including the shop monitor interface, OnRamp is helping to engage the machine operator more often as well. Just like the urge to check your smartphone every 30 minutes, and unlike the hassle of shuffling through paper work orders, operators just can't resist watching the shop monitor for progress or updates. The OnRamp system keeps the attention of your machine operators better than any other ERP/nesting software, which results in smoother operations, and fewer problems arising.

Preventative Maintenance Alarms

Another challenge solved by OnRamp has been ensuring machine operators complete preventative maintenance tasks. By embedding preventative maintenance alarms directly into the system workflow, operators must complete them before they can move onto the next nest.

Your department supervisor can quickly check on each machine from a computer to verify maintenance has been performed and rest assured the equipment is running smoothly and at peak performance, keeping them healthy and saving you money on emergency maintenance.

Lack of Integrated MES for Nesting

With OnRamp including an integrated manufacturing execution system (MES) into the software, it works together with the nesting module, and your favourite nesting software to allow job travelers to be grouped by nest, and once released an assigned number stays attached to the nest until it has completed the cutting process – signaled by the machine operator reporting the nest as done through the shop monitor – issuing the materials. Easily track every piece step-by-step from the moment the work order is created, to the second the completed order has been received by the client.

No Insight on Material Utilization

Nesting was developed primarily to reduce material waste, but with current software, it's not easy to monitor for exactly that. OnRamp can easily generate reports allowing your materials manager to compare how you match up to the standard bill of materials, and automatically book the variance in the integrated accounting module.

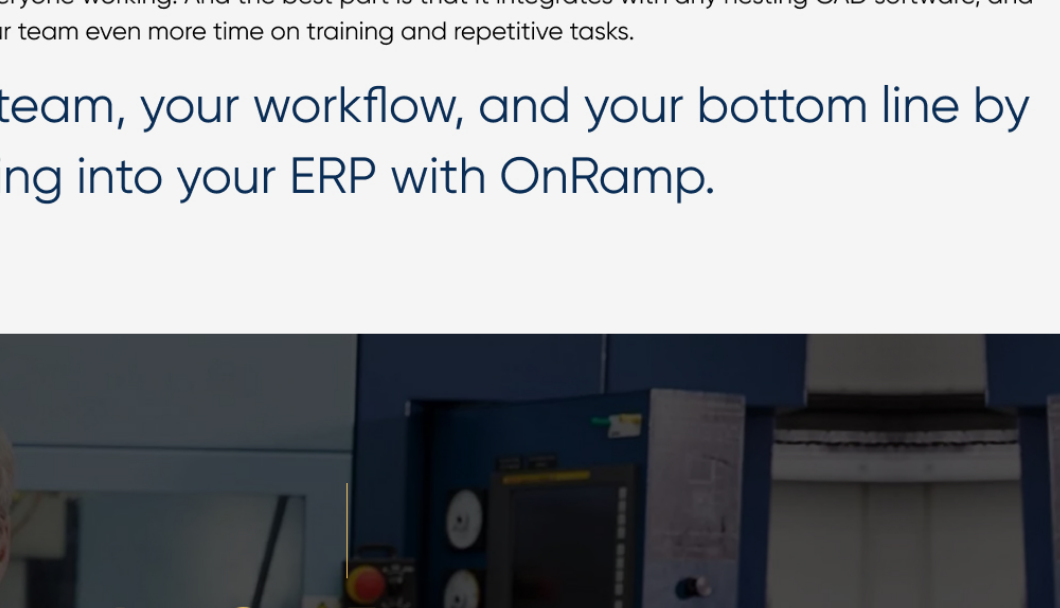
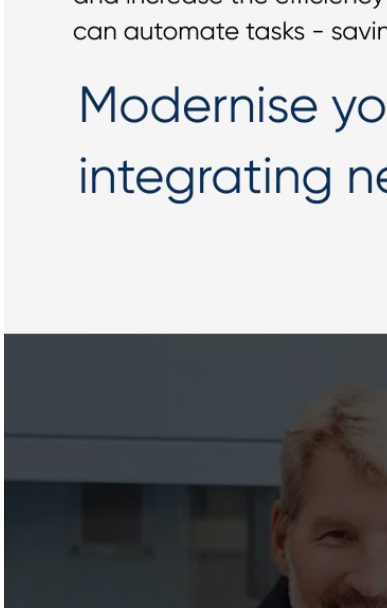
Similarly, inventory control can be seen and reported within the OnRamp system, letting your materials manager see what is available, what needs to be ordered, and what can be reused in a later order easily and in real time.

Sharing Data Within One System

Even the smallest discrepancy in data within manufacturing can cause major delays, and wasted materials, manpower and money. When your systems talk to each other, data including cutlist details, material drops, scrap, estimates for routing and work orders only live in one place, no matter where it's being updated and changes in real time, instead of going back and forth between paper work orders, and multiple systems, OnRamp synchronizes your data automatically.

OnRamp Provides Solutions, in an Effective and User-Friendly Way

The Mancor team knew they had a challenge in front of them when they decided to tackle nesting integration into an ERP, but it was one they saw as an opportunity to create a tool that was missing in the fabrication industry.



Real money is saved when you can reduce labor spend in the laser department, foresee and avoid backups and downtime, and increase the efficiency of everyone working. And the best part is that it integrates with any nesting CAD software, and can automate tasks – saving your team even more time on training and repetitive tasks.

Modernise your team, your workflow, and your bottom line by integrating nesting into your ERP with OnRamp.

Let Our Experts Answer Your Questions

For more information about how Nesting Module can add value to your business fill in the contact form. A member of our support team will contact you within 1 business day to discuss any questions you have.

CALL US TODAY AT

+1 (905) 901-5020