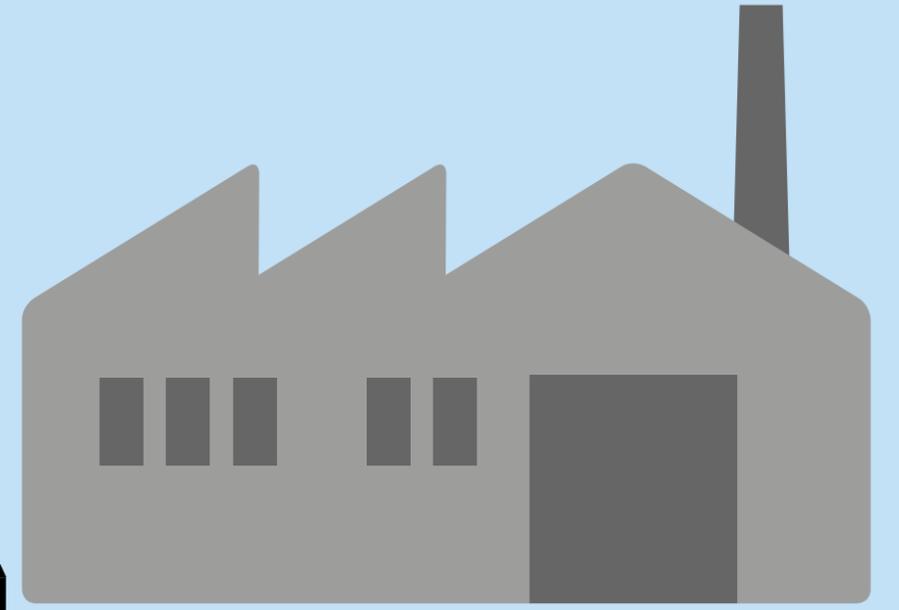
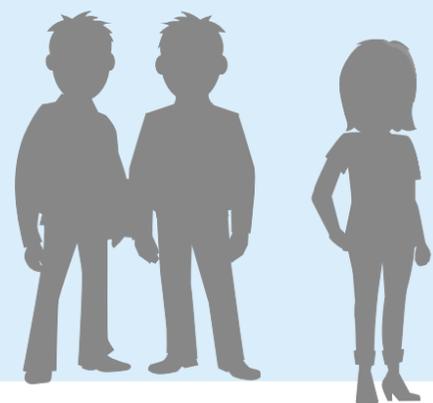


Is the manufacturing labor shortage impacting your business?

Anticipated shortage
7.9
MILLION¹
workers

This could be the most valuable 10 minutes of your day

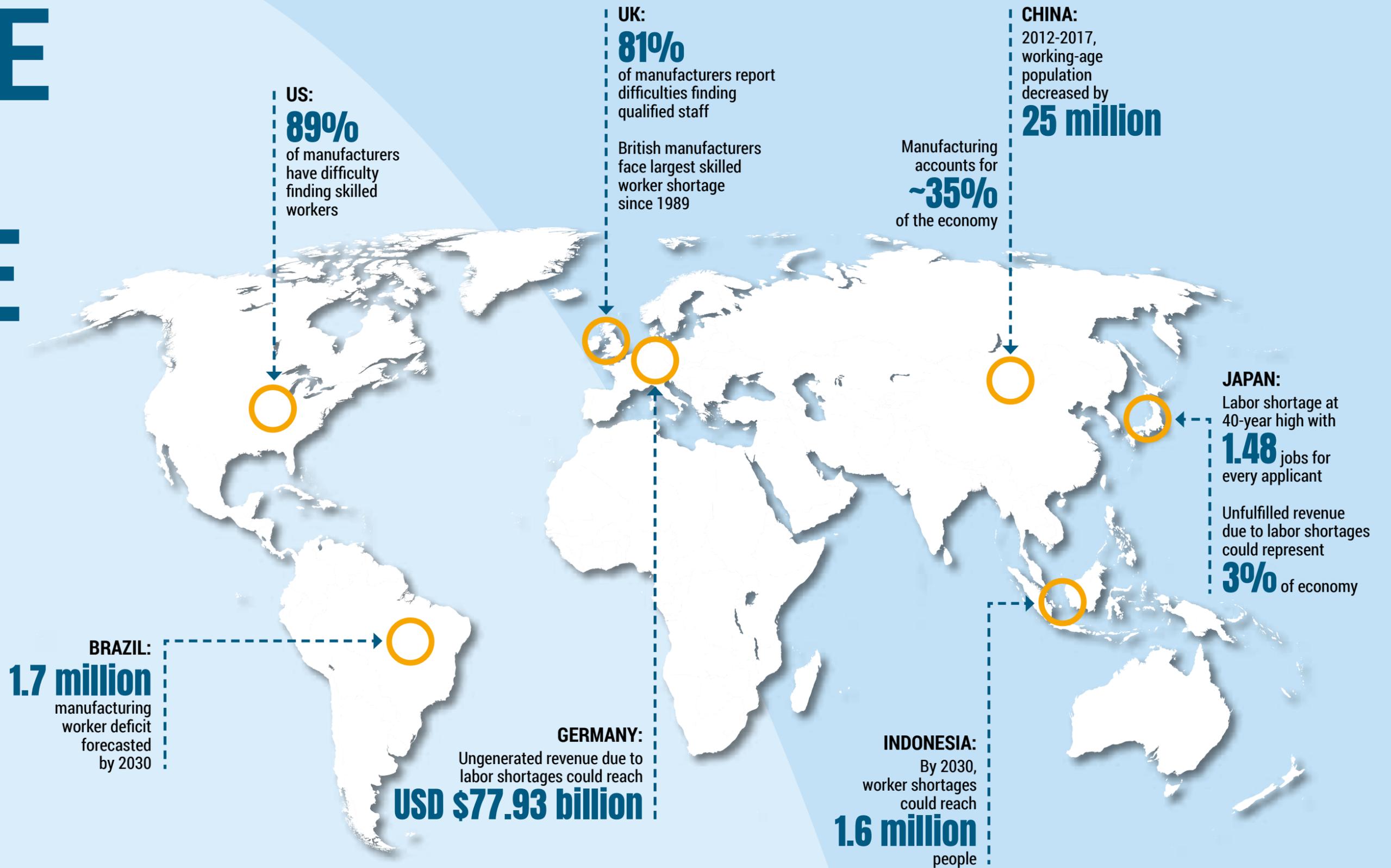


Smart Ideas from Smart Manufacturers

In this Issue: Solving Labor Shortages

YOU'RE NOT ALONE

Labor shortages are a global issue



WHAT ARE YOUR WORKFORCE CHALLENGES?

We talk to thousands of successful small and mid-sized manufacturers every year. They're addressing all of these challenges with creative, proven ideas you can start using now.

- ✓ I'm struggling to fill positions for repetitive, manual jobs
- ✓ Temporary operators aren't reliable
- ✓ Operators don't want to work extra shifts I need to meet demand
- ✓ I have processes I can't run at full capacity because of staffing issues
- ✓ My workforce needs vary by season or unpredictable demand

- ✓ Operators are worried about hazardous tasks and environments
- ✓ My product quality is suffering due to a lack of skilled workers
- ✓ I could grow my business if I could increase output
- ✓ High costs of living make manufacturing wages unsustainable
- ✓ I struggle to compete for workers
- ✓ I lose good workers because I can't offer opportunities for advancement
- ✓ People don't want to work in traditional manufacturing environments
- ✓ Prospective workers don't have the specific skills I need





WHAT IF YOU COULD HIRE WORKERS WHO WOULD...

The reality is,
human workers
can't meet
those demands
—but some
robots can.

- ✓ Happily do your most repetitive, dangerous, or ergonomically unfriendly manufacturing tasks?
- ✓ Never worry about working in a dirty, toxic or too hot or cold environments?
- ✓ Work around the clock, every day, all year long with no vacations or overtime?
- ✓ Learn the job with just a few hours of training?
- ✓ Always meet your exacting quality standards, with no lapses?
- ✓ Only need to be paid the equivalent of one year of an entry-level salary?



ELIMINATE THE WORST

JOBS

so you can offer
the jobs workers want

Robotics won't solve all your labor challenges, but according to your peers, it's the right place to start. Robots eliminate the need to hire people for the most boring, repetitive, and injury-prone jobs. They let your employees do work that is satisfying for humans and that takes advantage of their problem-solving and creative skills, while robots do the work humans don't want to do.

“ Before, I stood eight hours a day at the same machine and didn't have any other assignments. **The robots have enabled me to be more flexible and take on new tasks.** It's also made it more interesting to come to work as you learn to program the robots, which is really fun.”

Lars Meldgaard Nielsen, operator at BJ-Gear in Denmark

“ We're now attracting people that are not just looking for a paycheck; they're looking for a career. **In order to bring young people into the business, you have to have technology.**”

Gary Kuzmin, CEO of All Axis Machining in Texas



Smart Ideas
in 10 Minutes



IMPROVE SAFETY AND REDUCE COSTS

Repetitive, physical jobs are not only undesirable, they can cause expensive worker injuries and downtime. Today's collaborative robots ("cobots") are user-friendly, easy to program, and very affordable, even for smaller, family-owned manufacturers. While relieving human workers from tasks that can be hazardous or cause repetitive injuries, most cobots pay for themselves in a matter of months and continue to work maintenance-free for years.

“It's a potential carpal tunnel syndrome application, cutting about 16,000 wires a day by hand. So we thought **that was a great place to put robots – let them get carpal tunnel!**”

Matthew Bush, former director of operations at Scott Fetzer Electrical Group in Tennessee

“I have long been responsible for packing the shoehorns. Each box contains 594 units, and in the past, all shoehorns were put into bundles and hung on racks by manual laborers. As we had to keep bending over and put them into boxes, **we worried that repetitive work after a long day would lead to pain in the body, or even injuries at joints or waists over time.** Now I only need to place a certain amount of shoehorns on the rack and supervise cobots to do the work.”

Lee, a factory operator at BTC Mold in Taiwan



THE COST OF WORK-RELATED INJURIES

US:
34%
of injuries are due to lifting and repetitive motions.

UK:
30.7 million
working days lost due to work-related illness/injury

EUROPE:
Work-related injuries cost EU
USD \$538.95 billion
a year

US:
A worker is injured on the job every
7 seconds
104,000,000
production work days were lost due to work-related injuries in 2016

BRAZIL:
In 2013, compensations for injured workers reached
USD \$95.6 million

AUSTRALIA:
Manual handling injuries cost
USD \$19.83
per year



GIVE EMPLOYEES OPPORTUNITIES TO GROW

When you give workers the opportunity to gain new skills, you build loyalty and a business culture that attracts like-minded people. These employees become problem-solvers and leaders who help drive your business success. Once manufacturers no longer have to try to fill the worst jobs—knowing that those tasks will be done faster, with higher output, and at higher quality—they have far more interesting jobs to offer.

“Skilled workers were getting too tied up in simple tasks. That’s when I got the idea of having repetitive activities carried out by robots. The monotonous tasks are all done by robots now. And **our skilled employees can focus once again completely on the traditional craft of glass-blowing to play out their full potential.**”

Robert Hofmann, managing director
at Hofmann Glastechnik GmbH in Germany

“We needed to make better use of the labor we had on hand. Instead of using our employees as labor, we needed to use their brains. [With robots] **we lowered our labor content per part, and gave people better jobs.**”

Joe McGillivray, CEO of Dynamic Group
in Minnesota

“Standing by a machine waiting for it to say “beep” can drive you crazy. **The person who used to wait for the machine now takes care of other important tasks.**”

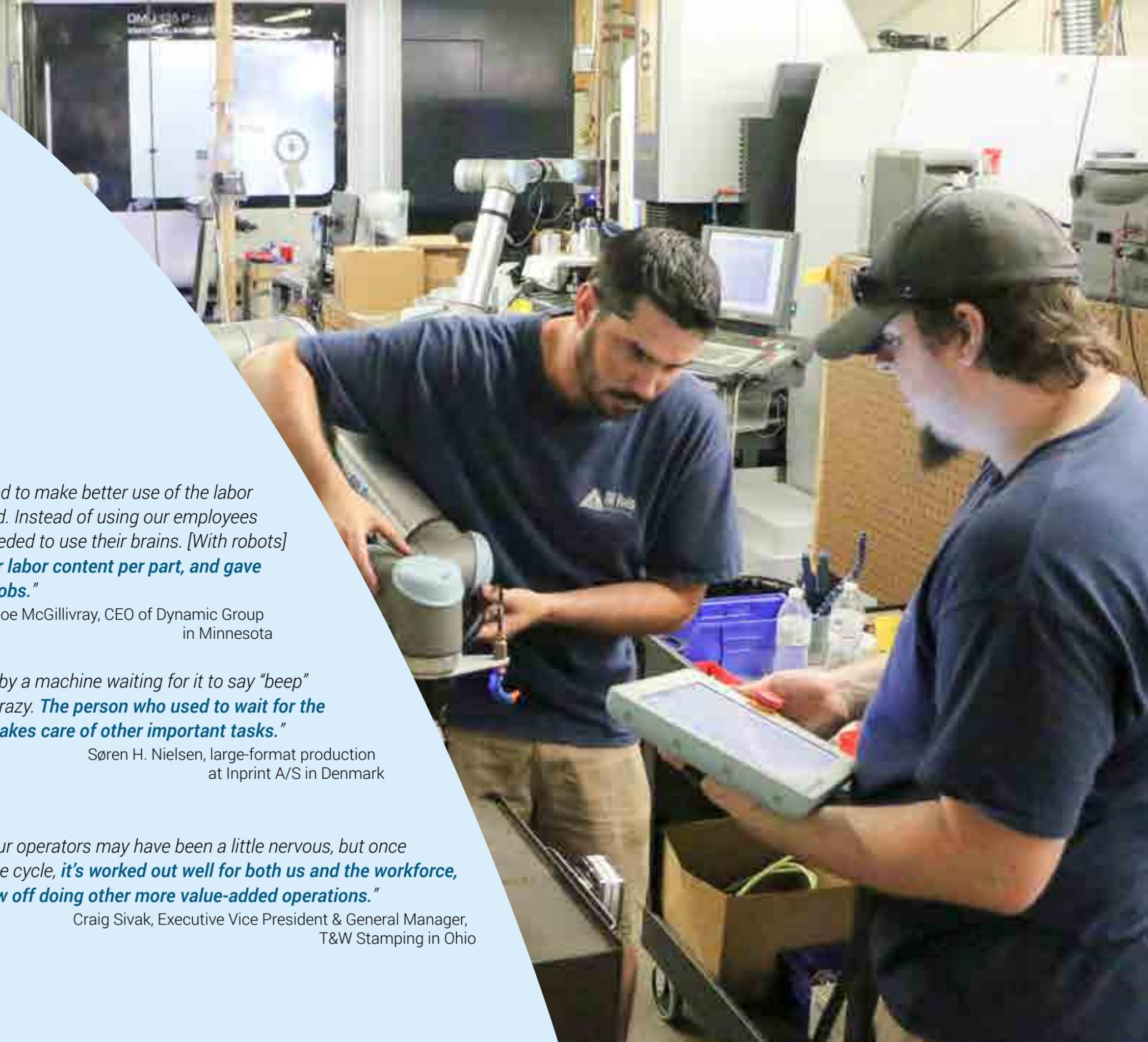
Søren H. Nielsen, large-format production
at Inprint A/S in Denmark

“Initially, our operators may have been a little nervous, but once they got into the cycle, **it’s worked out well for both us and the workforce, as they are now off doing other more value-added operations.**”

Craig Sivak, Executive Vice President & General Manager,
T&W Stamping in Ohio



Smart Ideas
in 10 Minutes





ADD CAPACITY AND PRODUCTION FLEXIBILITY

without adding people

One of the challenges of a small business is having the flexibility to react quickly and responsively to customer needs and seasonal demands, but that doesn't necessarily mean you need to add workers. Easy-to-redeploy collaborative robots let you react to market needs with current employees. You can easily move and reprogram these lightweight automation tools to new processes and production lines, building success for your business and satisfaction for workers.

Researchers from MIT found that human-robot teams were more productive than either alone, and

reduced human
idle time by
85%



Smart Ideas
in 10 Minutes



Increased automation could

cut labor costs by
16%

in world's 25 largest goods-exporting nations

Many of your peers move into automation so they can affordably increase output or add product lines in the same amount of space and with the same number of people.

“ We're running about 27%-30% more efficient on that particular production line. Because it takes less staff to run that line, I am more flexible during the rest of my production time. I can focus people into different areas. I can run different products. Adding the cobots to our automated line has allowed me to build that product four times a week instead of two times a week like I did in the past. There are less people involved in that production line so **I'm able to utilize those people that were doing that in other positions throughout the week, so I now have more time to increase that production.**”

John Griffin, director of operations at Darex, Oregon

“ The scalability and easy programming [of the robots] offered **the flexibility to perform the varied tasks we needed at an affordable price.**”

Marc Simkin, manufacturing engineer manager, ASSA ABLOY NZ



Smart Ideas from Your Peers in 10 Minutes



Skeleton crews have a huge impact on productivity, profitability, and customer loyalty. Automation can help keep lines running, even during undesirable shifts or periods of high demand, without adding workers.

“ We were able to improve productivity dramatically. We now operate 24 hours a day and, **compared to before we installed robots, productivity of the automobile key molding process has improved 20%.**”

Mr. Yoshizawa, Alpha Corporation in Japan

“ We took the robot, put it on the CNC machine and actually delivered that part almost two and a half months early because of **all the additional machine time that we had.** We saw a 60 percent profit increase on that job alone. ROI was about a four-month return. Our spindle up-time has gone from about eight hours a day to about 20 effective hours.”

Gary Kuzmin, owner of All Axis Machining in Texas

In 14 countries
from 1993-2007
the use of robots
in manufacturing

raised GDP
10%

...and productivity
16%

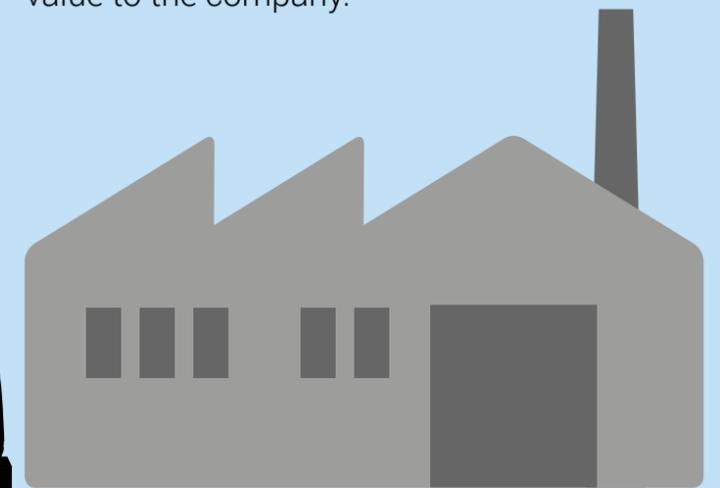
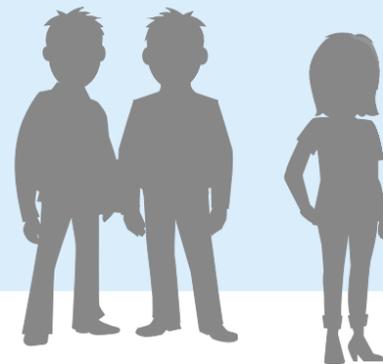
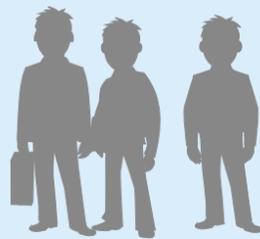


Smart Ideas
in 10 Minutes

BE THE PLACE WHERE PEOPLE WANT TO WORK

Here's a list of creative ways your peers have built a culture where people want to work and take pride in their company's success.

- Ask employees to recommend tasks that could be automated to make their jobs less stressful and more efficient and productive. Let them suggest how they could provide more value on upstream or downstream processes that require more dexterity or problem-solving skills.
- Use late shifts for automated, repetitive processes that require minimal supervision. When employees arrive in the morning, materials will be ready for them to perform higher-value processes.
- Develop a competition for machine operators to earn the position of robot technician. Use free online training tools (such as [UR Academy](#)) to let interested employees learn basic robot programming techniques and compete for a new, exciting role.
- Give valued employees freedom and flexibility using cameras and sensors on machine-tending robots that send alerts if there are problems and can be remotely reset. Trusted employees can keep production processes on track from anywhere—even their kids' soccer game—helping you build loyalty and responsibility.
- Let valued employees recommend the people they want to work with. Companies that hire through local vocational training programs take advantage of students' interactions in the classroom, letting trusted employees recommend other collaborative, eager workers who have already proven their ability to work well together.
- Create team-based projects that give employees room to grow. Tell employees what your goal is when introducing new processes or equipment, set up a small team, and give them the responsibility and authority to find the best way to solve the challenge and demonstrate their value to the company.





How collaborative automation can help solve your workforce challenges:

Find out how collaborative automation can help you solve your labor shortage challenges.

universal-robots.com/xxxxx

- Fulfills undesirable jobs in today's tight labor market
- Accurately and consistently performs undesirable, repetitive tasks
- Lets you move employees from low- to high-value activities
- Is easy for existing employees to operate and manage
- Is affordable, with minimal costs for setup or maintenance
- Fits on your shop floor without bulky safety fencing
- Is safe for nearby workers
- Can be moved quickly and easily to new processes or product lines
- Pays for itself within months—not years
- Provides savings you can reinvest into new products and channels
- Supports new processes and more advanced applications in the future



Smart Ideas from Smart Manufacturers in 10 Minutes

Universal Robots Business Guide Series

Collaborative robots from Universal Robots are deployed in tens of thousands of small and mid-sized manufacturing facilities around the world. We work closely with business owners like you to understand the business challenges you face and help you solve many of them with automation. Along the way, we've learned a lot from our customers. In this series of Smart Ideas from Smart Manufacturers business guides, we're sharing the knowledge and experience of your peers so you can adapt their best ideas to help your business succeed.

If you haven't looked into collaborative automation yet, maybe it's time.

Find out more:
universal-robots.com

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