

# Defining Your Factory Training Journey

How to map role-specific skills for optimal onboarding, on-the-job training, upskilling and reskilling

## The Labour Crisis and Its Effects on Manufacturers

The labour market in manufacturing has undergone a dramatic reversal from enjoying a reputation as a prestige employer to facing a labour crisis. In 1979, US manufacturing employment reached an all-time peak of 19.6 million workers. Employment has since slowly eroded over five recessions, [dropping 35% by 2019](#). [The sector appears to have rebounded since the pandemic](#), but companies are finding it extremely difficult to fill open positions. According to the US Bureau of Labour Statistics, the number of open positions has increased by 180% in the US in 2021 and 2022.

There's work to be done, but fewer people are choosing to do it. Skilled production workers, general labour and production management are the [hardest roles for manufacturers to fill](#). In

a recent 2022-23 surveys, [82% of Canadian](#) and [75% of American manufacturers](#) reported having difficulty hiring and retaining workers with the necessary skills and experience, specifically the right technical skills.

Import and export manufacturers [also say](#) they are directly losing money because of the labour shortage, primarily due to delivery delays, increased costs and customer dissatisfaction. The majority of those surveyed said the crisis had a moderate to major impact on their businesses. On average, companies lost \$2.8 million because of lost or turned-down contracts and penalties for late delivery in 2022. They also delayed or cancelled \$2.1 million in capital projects per company, impacting future productivity and profitability.

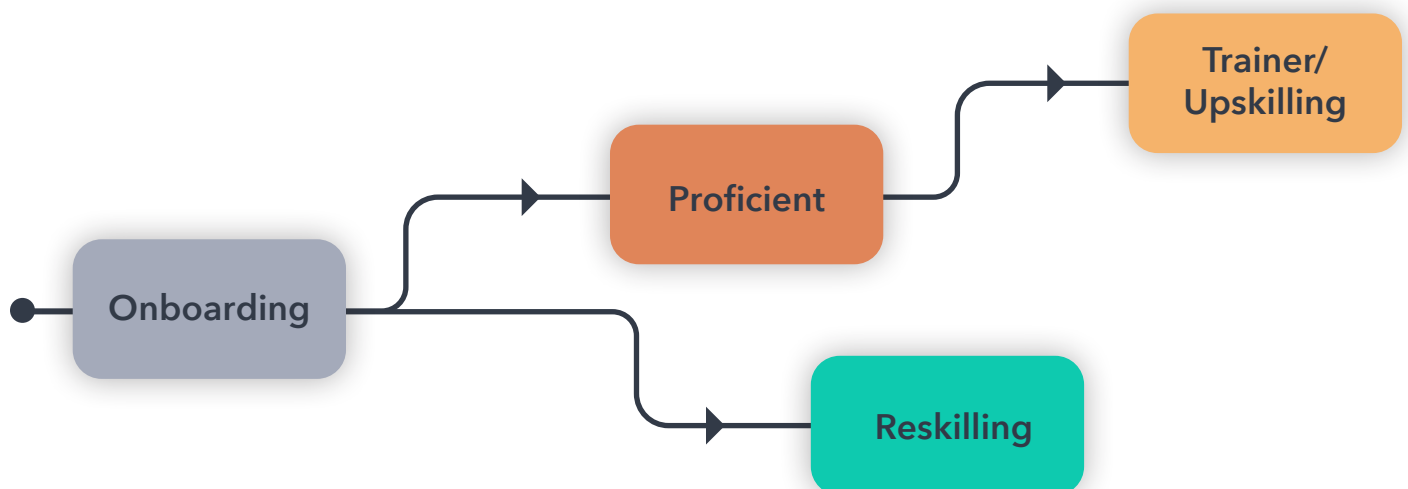
# How Are Manufacturers Responding to The Labour Crisis?

In an effort to address these challenges, manufacturers are turning to training. They are coming to understand that they will need to train a skilled workforce if they can't hire for the necessary skills. [Eighty percent of American manufacturers said](#) they were increasing their workforce training efforts to combat labour shortages. These efforts have improved employee productivity, boosted morale, and extended career longevity and advancement.

Additionally enterprise employers are quickly improving role-based or skill-based training programs. [MIT's 2021 Factories of the Future study](#) of large-scale manufacturers observed a "significant variation in training and upskilling strategies, many of which appear to be highly granular and tailored to the needs of specific workers." Large firms were predominantly developing their own in-house training programs, favouring a tailored approach to ensure that employees had the skills most relevant to the tasks they needed to perform.

## The Four Stages of Training and Their Role in Employee Retention

You can slice and dice a training program in a variety of ways. For the sake of this e-book, we'll be looking at the various stages of role-based training within manufacturing. We call this a company's "training journey," and it can be summarized like this:



# Onboarding

Upon joining an organization, workers undergo an extensive onboarding phase that typically spans from a few days to several weeks. The onboarding process encompasses essential factory-wide skills such as quality, health and safety, security training, and the entry-level role-specific skills necessary for equipment operation and basic troubleshooting. By the end of the onboarding period, the worker should have undergone assessments to confirm that they can work independently.



To learn more about onboarding, and how training can be standardized through connected worker apps, please refer to our New Hire Onboarding in Manufacturing e-book.

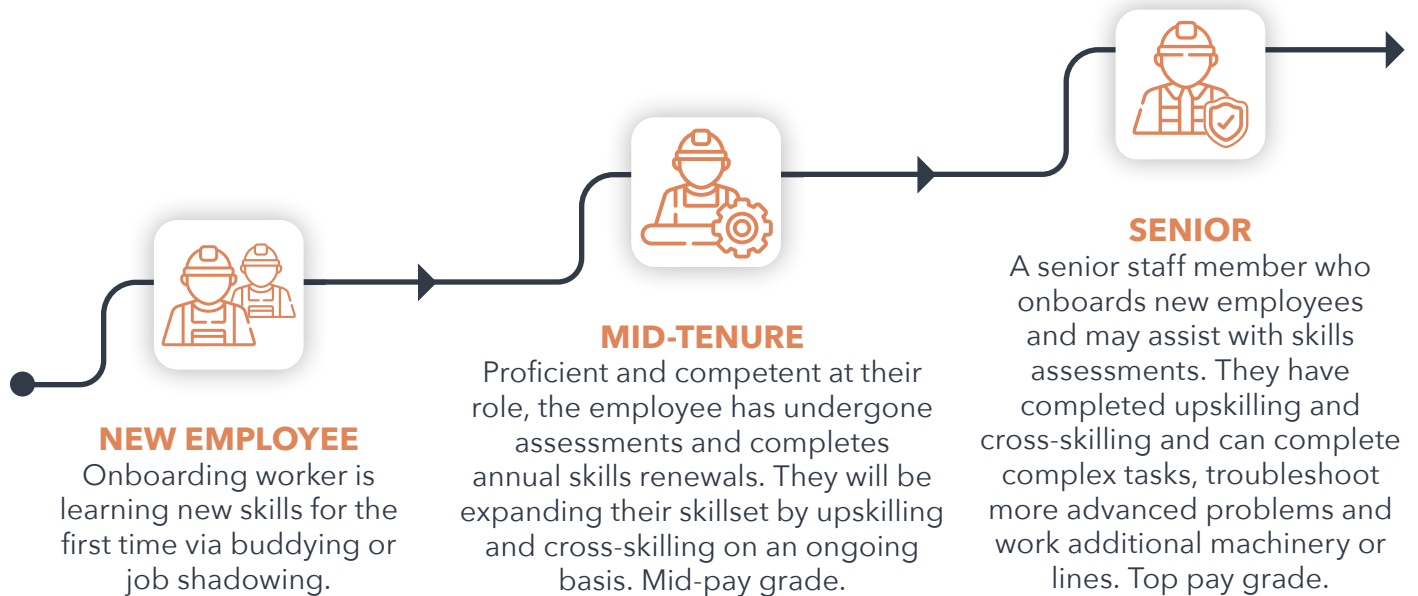


# Role-Specific Training

Skill-based training, also known as job-specific training, on-the-job training, or competency-based training, is simply training that focuses on providing employees with the specific competencies required to perform their job tasks effectively. It's tailored to the needs of individual job positions and is aligned with the activities performed on the shop floor.

As production has become increasingly complex and automated, training programs have also had to adapt to reflect the new roles and responsibilities.

For Poka and the majority of our community, skills-based training, also referred to as step-up cards, typically begins during onboarding once company foundations have wrapped up. From here on out, we see training as role-specific, separated by skill level.



## Upskilling and Cross-Skilling

There's some overlap between these two terms but there are nuances to be made:

**1. Upskilling:** Workers are learning and developing the complexity of their skills - think upgrading from an Operator Level 1 to Level 2. Once proficient at the task, they become your gurus and your trainers.

**2. Cross-skilling:** This refers to cross-training workers on other job roles, lines, or equipment to provide redundancy in an emergency or labour shortage. It also provides flexibility in workforce coverage.

Upskilling and cross-skilling have been steadily on the rise. In 2021, [60% of manufacturers said they were cross-training](#) their employees, with 73% prioritizing it. [The main benefit employers saw](#) was improved employee productivity. Multinationals also used cross-skilling to help offset labour shortages during the pandemic. [Factories have been primarily investing](#) in new equipment training, enhanced health and safety skills, and process improvement.

Upskilling and cross-skilling help not only with productivity and flexibility—these kinds of training can also help stem the bleeding tide of employee turnover.

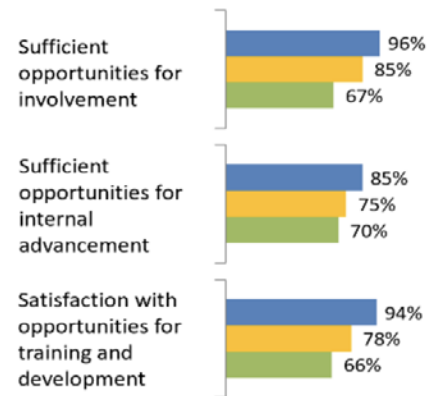
The [Manufacturing Institute’s 2021 Manufacturing Engagement and Retention Study](#) revealed a strong correlation between employee growth opportunities, workplace practices and business outcomes. It also highlighted a disconnect between senior leaders’ inflated perception of opportunities and what workers actually experience.

Fewer frontline workers felt they had sufficient opportunities for advancement and were satisfied with their company’s training and development programs. Consequently, this led to a decline in their motivation to perform at their highest level, reduced job satisfaction, and a diminished sense of personal value. These are all subtle indications of problems brewing with productivity, retention and morale. It hints that employers may have to take further actions to improve training and development opportunities, even if their personal satisfaction speaks otherwise.

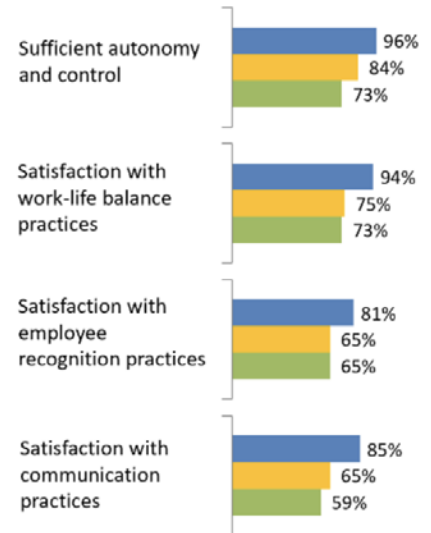
Upskilling also plays an important role in attracting new workers. The industry has witnessed a convergence of skills that are now in demand not only within manufacturing but also across sectors such as retail and healthcare. As a result, competition for hiring has intensified. Combined with the challenge of attracting younger generations to industrial work, companies need a robust training program to remain competitive with job seekers.

The process of mapping skills to specific job roles brings clarity and transparency to workers regarding their career progression. This approach motivates employees to acquire new skills and take ownership of their professional development. Consequently, team leads and plant managers can engage in more productive and meaningful conversations with workers, facilitating better understanding and alignment of individual aspirations and organizational goals. By offering training opportunities that operators genuinely desire, management can effectively reduce turnover rates and make a tangible impact on employee retention.

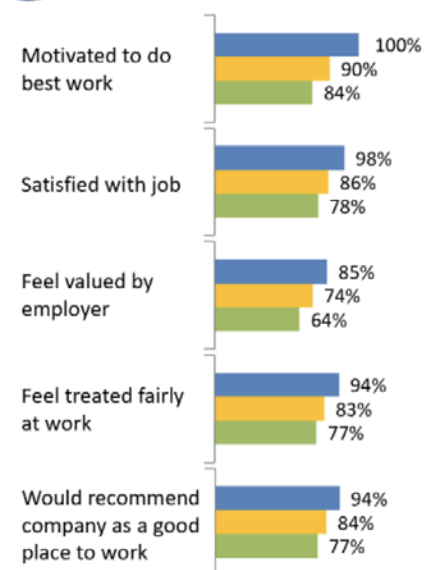
### Available Opportunities



### Workplace Practices



### Outcomes



■ Senior Leaders ■ Middle Management ■ Frontline Workers



## Reskilling

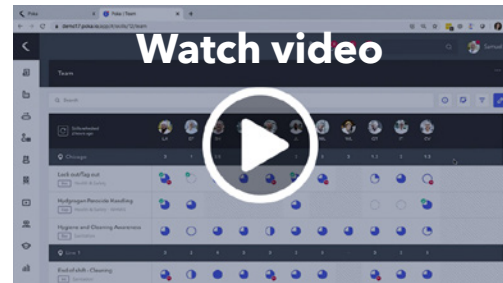
This is when an individual is retrained for a completely new job role, essentially undergoing basic training once again. It's a more cost-effective way to deal with labour shortages, technology changes and business disruptions and is an alternative to hiring externally.

It's something manufacturers are going to have to get used to doing. The World Economic Forum predicts that 50 percent of all employees will need to reskill by 2025 to respond to technological advances. And in 2021, 63% of manufacturers said they were retraining their employees, up marginally from the previous year.

With an established organization-wide training journey, reskilling becomes a predefined process that demands minimal additional effort. One notable advantage is the absence of the need to bring in untested external hires, as you already have a pool of proven workers who have undergone thorough onboarding. By offering reskilling opportunities, you effectively showcase your value as a loyal and dependable employer.

# How Do You Execute Roll-Specific Training with Poka?

Through Skills! You probably saw that coming, didn't you? A Connected Worker application like Poka can replace Excel skill tracking spreadsheets and training binders filled with hundreds of pages of printed work instructions. Now Poka digitally connects skills tracking and training content together for a seamless training experience.



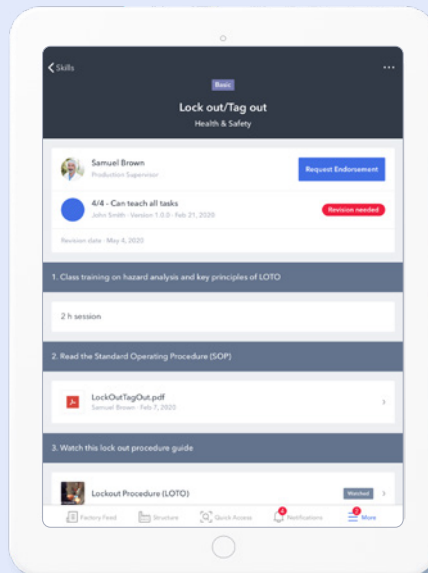
We capitalize “Skills” to emphasize its significance as a product feature, consisting of three integral components.

The workflow is simple: workers are automatically assigned skills based on their role and location in the plant. They can then follow the steps of the program including reviewing the content, marking it as read/watched and then completing the exam and/or assessment. Once completed, the worker can request an endorsement and, the skills matrix is automatically updated.

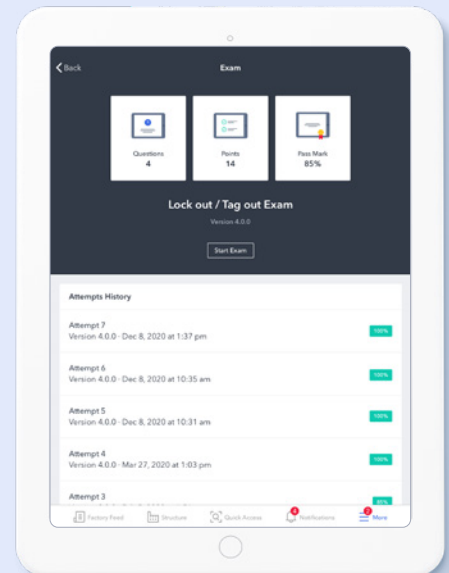
## SKILLS MATRIX



## SKILL DETAILS



## EXAM



Skills in Poka are flexible multi-step training programs that can be made up of anything. In terms of content, you can include:

- Links to existing training content stored in external systems like Sharepoint or your LMS
- A mass import of your existing training content into Poka, including design documents, PDFs, PowerPoints
- Offline steps such as a mandatory shadowing period, a classroom training or an assessment by a trainer
- And last but not least, ideally your Skills in Poka include digital work instructions and troubleshooting solutions directly in the app that feature text, photo and video

## It's your ability to structure and organize Skills that truly enables role-specific training.

### Location

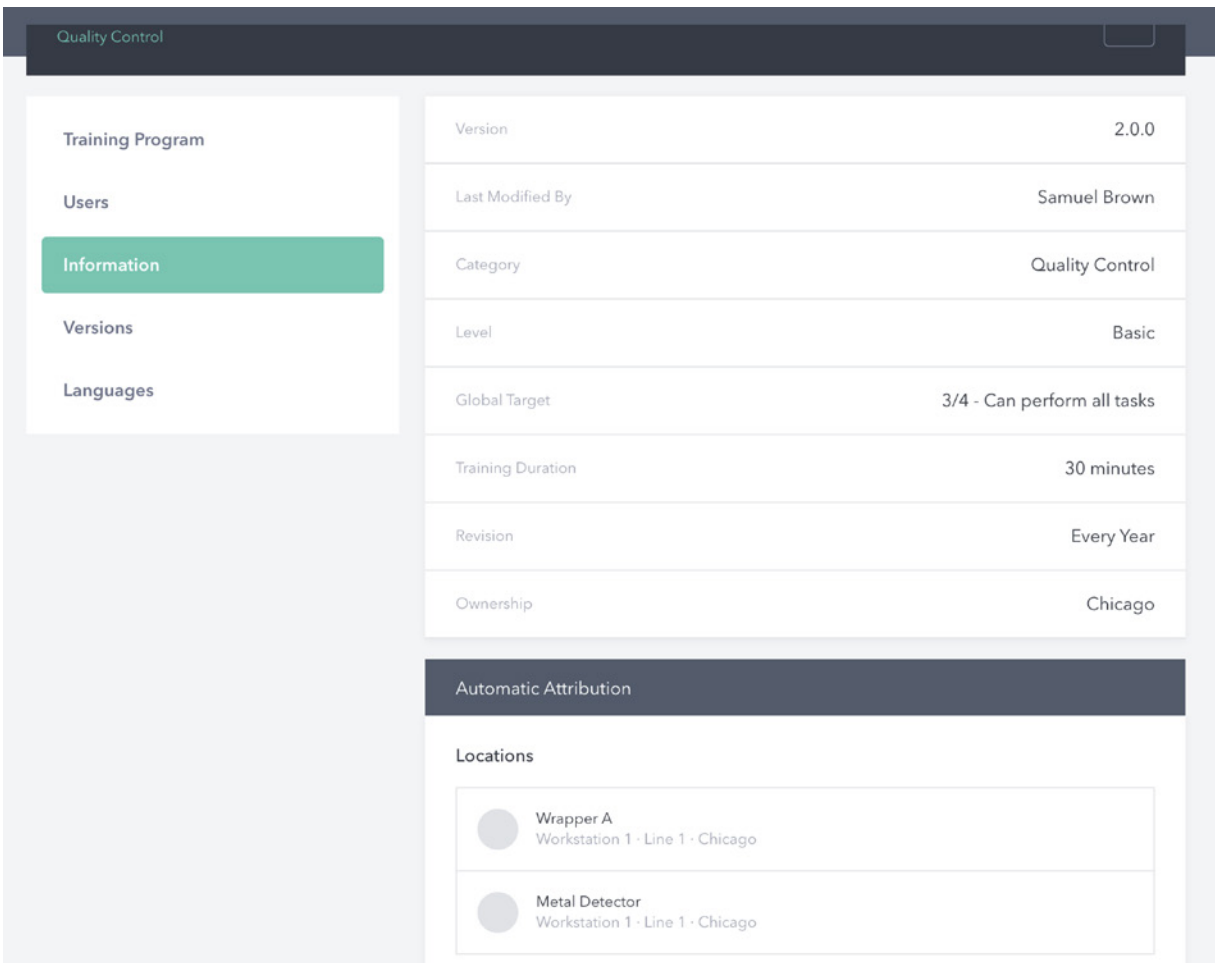
Skills can be company-wide, site-specific, or even tagged to a single piece of machinery by QR code. Company-wide skills are primarily used for onboarding and compliance tracking.

### Level

Skills can be classified by level to help separate out competency or pay-based distinctions.

### Job role

They can be assigned to any number of job roles to create a required skills framework for each job position. When a user is assigned a job role, all the associated skills are automatically loaded into their training plan, ensuring that nothing is accidentally left out.



The screenshot shows the Poka Skills interface for a 'Quality Control' skill. On the left is a navigation menu with options: Training Program, Users, Information (highlighted in green), Versions, and Languages. The main content area displays a table of metadata for the skill:

Version	2.0.0
Last Modified By	Samuel Brown
Category	Quality Control
Level	Basic
Global Target	3/4 - Can perform all tasks
Training Duration	30 minutes
Revision	Every Year
Ownership	Chicago

Below the table is a section titled 'Automatic Attribution' which lists the locations where the skill is applicable:

- Wrapper A**  
Workstation 1 · Line 1 · Chicago
- Metal Detector**  
Workstation 1 · Line 1 · Chicago



## As far as the evaluations go, we offer multiple assessment types to ensure skills mastery and compliance tracking:



### Online exams

Check, we've got that. This is a pretty standard feature across learning and development tools - true/false, multiple choice, or open answer. A short quiz tests comprehension and retention and is an opportunity to identify knowledge gaps. You can limit the number of attempts, and all answers are recorded for recordkeeping. Quizzes can be done on the shop floor or as part of classroom training.



### Hands-on assessments

Asking a quiz question on a procedure is completely different from seeing staff perform it step by step. Assessments allow trainers to observe the competency, write up feedback and mark the corresponding skill as complete or needing review. This feature is designed for buddy and job shadow training.



### Self-assessments

Trainees are able to raise their hand in the app when they feel ready to undergo assessments. Self-assessments outline the targeted proficiency in the skill, which workers can compare against their current level of accomplishment. This way, less time is wasted on unsuccessful exam attempts.

Once a skill is successfully completed, it's incorporated into our stunning visual skills matrix. Once you take a quick moment to understand the design, it quickly becomes clear that Poka's Skills Matrix was made for effortless tracking and recordkeeping for both frontline workers and leadership.

The quartered pies are Harvey Balls and are a visual representation of skill mastery - beginner, competent, trainer, etc. The red clock means a skill is overdue or requires refreshing, and the green check means the employee has requested endorsement. For trainers, it's easy to determine next steps to ensure smooth progress, while trainees can easily track their current status and identify potential growth opportunities. L&D and HR staff have the ability to filter by skill 'en masse' so they can check compliance by division or site. Shift supervisors can also swiftly identify qualified personnel if someone calls in sick or production requires extra manpower.

### SKILLS MATRIX ICON LEGEND



Revision needed



Pending request



Skills Development

# Bringing Training Events Into the Flow of Daily Work

The app can support traditional training methods like classroom training and job shadowing, but our ultimate goal is to allow frontline workers to learn independently, in digestible portions. This innovative approach is often referred to as learning “at the point and place of need”. In practice on the shop floor, in-the-flow learning for a frontline worker might look like any of these:

- Being assigned a new or expired skill to review during planned downtime
- Looking up work instructions before completing an infrequent task
- Watching the latest troubleshoot or one-point lesson for their workstation
- Collaborating with a colleague in the newsfeed on a request for help
- Upskilling or cross-skilling to expand their knowledge

**Poka’s Skills capabilities, along with several other product features, make this kind of learning possible.**

- The most notable being that Poka is both an app and a web application. Tablets, being portable and sharable, provide convenient access on the bustling shop floor.
- Poka’s digital environment mirrors the physical structure of the plant, allowing for very tailored training that combines their specific jobs roles and work locations.
- Poka establishes a living knowledge library that can be continuously grown and adapted in real time. This way, content remains up-to-date and incorporates emerging best practices, creating a repository of knowledge for ongoing learning and improvement.



**See customer story page ▶**



# Benefitting Not Just the Learner



## Strengthening The Training Triangle

The training system is often a triangle, composed of the team leader, the trainee and the trainer.

In the training process, the trainer takes on the roles of both a mentor and an examiner, providing guidance and assessing the trainees' progress. However, the team leader holds the ultimate responsibility for validating the acquired skills, ensuring that the training is advancing at the right pace, and that all relevant information is covered. In the case of onboarding, the team leader makes the final employment decision after the new hire has passed their probationary period.

Traditional recordkeeping tools for training are typically checklists or a training booklet the trainee is responsible for carting around and keeping up to date. Communication between the trainer and team leader in the worst instances can be a quick conversation, which is less than ideal when making important personnel decisions. All in all, communicating training updates to higher-level management can be difficult as supervisors can be crunched for time and may not have the luxury of witnessing the training first-hand.

With Poka, the team leader has a foolproof way to check in on staff training on his own schedule. Gone are the days of passing like ships in the night, as they can access comprehensive records of every skill, broken down into step-by-step details. Exam results prove material was read and understood, while trainer assessment notes outline individual strengths and weaknesses. Equipped with this wealth of information, management can make better, more informed hiring decisions thanks to automated tracking and efficient digital communication tools offered by Poka.

## Easing the Burden on L&D Staff

As training becomes more dispersed for flexible consumption, the automatic tracking and record-keeping provided by Poka reduces the burden on L&D staff.

Poka enables you to tap into the expertise of your subject matter experts on an exponential scale. Instead of a senior operator being locked in and training a single new hire for months, you can capture their knowledge in short video lessons that can be referenced by all new hires. This approach frees up senior staff, allowing them to provide more time and attention in support of training of team members who have a firm grasp on the basics but need clarification or want to move up to the next level.

**50%** reduction in man-hours to maintain training program and skills matrixes



**75%** reduction in training creation and administration



# How well are manufacturers implementing role-specific training?

Based on our collaboration with global Fortune 500 companies, we have observed that mature organizations often possess an advanced perspective on skills development. In our experience, approximately one-quarter of companies adopt a journey-oriented approach to skills training, where job-based skills are clearly defined and divided into sequential levels of progression. This aligns with research findings indicating that over [40% of manufacturers struggle with connecting their training efforts to job tasks and performance](#). These insights highlight the importance of a structured and interconnected approach to training that effectively bridges the gap between skills development and job-related tasks.

## Why Are They Lagging?

Companies commonly face challenges in constructing their training programs, often due to similar reasons.

**1. Building and defining skills is a long-term project.** It's part of a broader culture shift, as we'll delve into later. If you don't have a clear roadmap outlining the desired path of worker development, it's impossible to work backwards and break down the job roles into specific skills, and from there, develop suitable training material.

**2. A limited ability to create content.** This could be due to a lack of defined project scope or constraints on time and resources. As discussed previously, a learning and development tool like Poka can help speed up training content creation and ease the burden on thinly-stretched staff.



# How to Successfully Launch Skills-Based Training

If your organization sees the long-term benefits of role-based learning, here's what you need to do to successfully get started

## Leadership and Culture

Senior leadership is responsible for making the decision to prioritize and safeguard learning on the line. As a long-term project intertwined with company strategy, it impacts crucial areas such as compensation, employee development, retention, reassignment for reskilling, and the implementation of new technology or equipment. Therefore management must lead the charge and follow through with this budding strategic priority. Leadership has the power to directly address the primary challenges of adequate planning and resource allocation, enabling the organization to effectively support and prioritize learning initiatives.

The second aspect needed to launch skills-based training is a strong training culture. If training support is lacking or weak throughout the organization, you won't be able to sustain the program.

Strong training culture	Weak training culture
Learning moments are not penalized and good behaviours are encouraged	Everything is focused on production, nothing else is important
Individuals have a personalized training plan that is consistently followed up on to ensure continuous development	Time is not allocated for training
An operator-centric approach actively involves workers in mapping their training journey - not just HR or the plant manager	Team leads don't have visibility into what is occurring
Training and CI departments are ideally separate	There's limited-to-no training structure
Senior leadership routinely goes onto the factory floor to listen and involve workers	Material is extremely out of date or non-existent
	Inadequate training resources (no training team or training responsibilities are heaped onto an overworked CI person)

# Identifying Your Training Journey Starting Point



## Crawl - Upload Your Existing Content

Because Poka can accommodate a large variety of content formats (like links to existing videos or PDF work instructions), many companies choose to get started by simply uploading their existing training content to make it more accessible and trackable.

To further narrow the implementation process, many organizations begin with digitizing onboarding content that applies to all employees across the site. These skills have significant consequences, like compliance strikes or potential health and safety claims, if not learned or recorded properly. In this instance, Poka can help achieve an initial big win. It's important in a continuous rollout that senior operators do not come to view the app as solely an onboarding tool that offers no value to them.



## Walk - Identify the Worst Losses

After uploading uploaded existing material that addresses common topics, the next progression is to identify your worst losses and align them with the roles involved in these impacted processes. We recommend targeting your most impactful 10 to 20 losses to prioritize training efforts effectively. The advantage of this approach is that by improving performance and raising your workforce to perform consistently at the same level in their knowledge of identifying, preventing or resolving these largest losses, you should see measurable improvements in your KPIs. This methodology gets you the biggest return for the lowest effort.

## How do you determine where your worst losses are?

- 1.** If you have good data on losses, it's time to bust out the analytics and take a hard look at the data.
- 2.** If you don't have quality data, instead, you should tour the floor for one to two days and talk with your operators. You can ask things like, "When you start up the equipment and begin your day, what goes wrong? Productivity and quality-wise, why does it stop?" If they respond with "it generally works", you know your white whale swims in other waters.
- 3.** You can create custom forms in Poka if you want to capture data. Contrary to popular belief, you don't need to invest in an MES system and wait years to begin capturing actionable data around production losses.
- 4.** Here's a bonus hint - oftentimes, losses stem from tasks operators do less frequently, like changeovers, startups, cleaning, maintenance or shutdowns, so these skills are naturally less developed due to lower frequency of practice.



# Run - Map Out Your Skills Journey

That’s the money question. It’s what you came here to learn. How **do** you map out your organization’s training journey?

Mature organizations that have already defined their training journey can leverage Poka to digitalize their training programs effectively. By utilizing the platform, they can streamline the transition from traditional methods to a digital learning environment. However, for organizations that are new to skills-based training or in the process of developing their training journey, the task may be more complex. The good news is that Poka can provide a rough plan to use as a starting point for building the training journey. We also work with our customers one-on-one to help them workshop their rollout plan.

To help you build your plan, here are some questions you should answer together with your project team.

1. What is the typical daily routine of an operator?

2. What is their area of operation?

3. Which structure level (workstation vs production line) corresponds to the knowledge they need to master in order to perform their role?

Following the guidelines below, each worker should aim to acquire 17 skills per location where they are assigned. Additionally, for each additional location they are assigned, they would be expected to acquire another set of 17 skills. This guideline serves three primary goals:



### Daily Task Achievement:

By equipping workers with the necessary skills, they will be well-prepared to perform their daily tasks effectively.



### Production Changes and Quality Standards:

Workers will also develop the skills needed to handle production changes and maintain quality standards within the business.



### Advanced Troubleshooting and Maintenance:

Over time, as workers continue to develop their skills, they will progress towards acquiring advanced skills necessary for troubleshooting and scheduled maintenance activities.

SKILLS CATEGORIES	Introduce	Clean	Operate	Troubleshoot	Maintain
SKILLS SUB-CATEGORIES	Overview	Cleaning	Raw Material Handling	Basic Troubleshooting	Clean Inspect Lubricate
	Safety	Inspection	Start-up Operations	Technical Troubleshooting	PM 4 Weeks
	Quality		ERP Transactions		PM 13 Weeks
			Production Stops & Shutdown		PM 26 Weeks
			Changeovers and set-ups		PM 52 Weeks

# Example: Beverage Producer

Working with this international beverage producer, they chose to begin their process by creating skills and training content for a packaging operator role that can be reused at other sites with identical machinery. Plants with the same role and machinery could access this existing content, quickly scaling their training journeys together instead of losing precious time and energy repeating the skills mapping and content creation process on their own.

Once the initial phase is rolled out, the company plans to expand the training program to cover additional roles. They estimated that 80% of role-based content can be reused and now only 20% would have to be updated to accommodate equipment differences.

## Their training journey is structured as follows:

- 1. Onboarding:** Completed through e-learning within the first 2 to 4 weeks.
- 2. Operator Level One:** Progression from buddy-supported training to independent learning over the next six weeks. Skills are categorized into Bronze, Silver, and Gold to indicate progression levels. This categorization facilitates employees' understanding of what skills they must start with. The Gold level is used as a filter in the Skills Matrix to easily identify who is fully certified for a job role.
- 3. Operator Level Two:** Focuses on advanced machine operations and more specialized skills.
- 4. Operator Level Three:** Builds upon previous levels with more responsibilities and maintenance tasks.

## Sample Level Breakdown

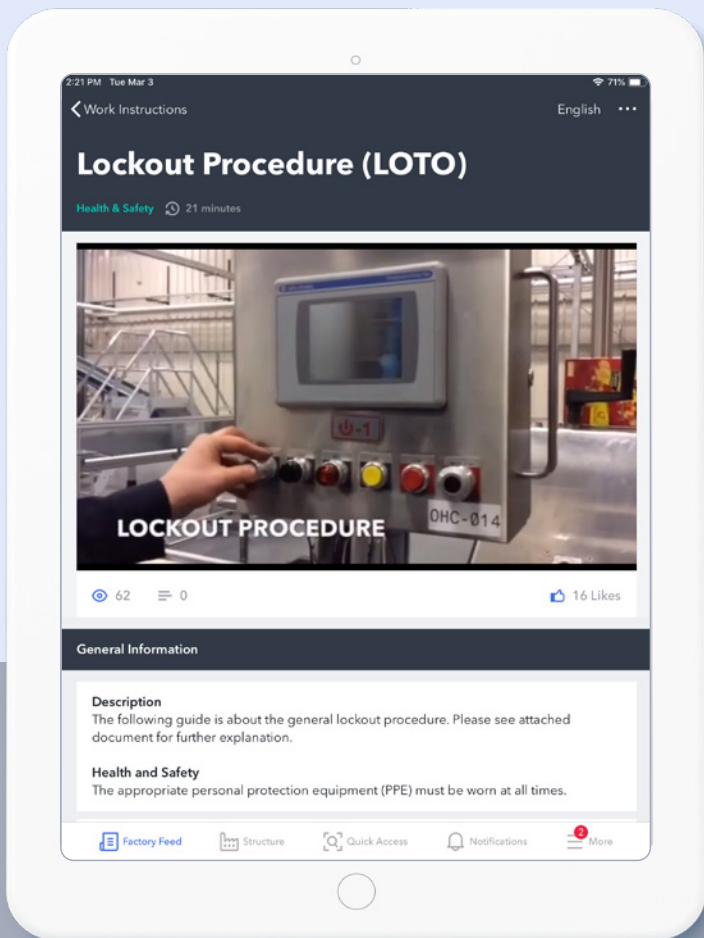
LEVEL 1 OPERATOR		
BRONZE Shadowing	SILVER No buddy, but still assessed and supported	GOLD Fully independent
Introduction & safety	Cleaning	How to restart your machine
Quality	Centerlining	Top ten error codes, plus solutions
Operations tasks	Changeover	Five additional common troubleshoots



# Conclusion

The training journey of a frontline worker evolves from onboarding through skill mastery via upskilling and onto new paths through reskilling. Every skill should be mapped out as part of an organization's comprehensive training journey not only for the benefit for the trainee, but as an integral part of a company's strategic business plan.

In this e-book we provided a crawl-walk-run methodology for organizations looking to digitize their learning and development with a Connected Worker support tool like Poka. In the end, adopting a skills-based training approach can significantly benefit organizations in improving knowledge transfer, performance, and overall operational efficiency. With Poka's support, organizations can establish a comprehensive and effective training journey to empower their workforce and drive continuous improvement.



Book your demo today  
or visit us at [poka.io](http://poka.io)

