

# The Ultimate Guide to Connected Worker Solutions

How to empower factory workers to drive  
plant performance and productivity



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# The Ultimate Guide to Connected Worker Solutions

Welcome to this comprehensive guide on connected worker solutions—a crucial resource for manufacturing organizations looking to enhance operational efficiency, worker engagement and overall productivity. As the manufacturing landscape evolves, driven by technological advancements and the increasing demand for agility, the role of the connected worker has never been more vital.

The purpose of this eBook is to provide you with a clear and actionable roadmap for evaluating, selecting and adopting a connected worker solution. We'll walk you through the key considerations, from understanding what connected worker solutions are and how they can benefit your organization, to selecting the right platform, implementing it effectively and measuring its impact over time.

## This eBook is structured to help you at every stage of your journey



**Chapter 1** introduces you to the concept of connected worker solutions, explaining their evolution and relevance in today's manufacturing environment.



**Chapter 5** offers insights on building a solid business case to gain internal support.



**Chapter 2** describes what makes the ideal connected worker solution to help you choose one that aligns with your business goals.



**Chapter 6** shares best practices for a smooth implementation, maximizing your chances of success.



**Chapter 3** explores specific use cases where connected worker apps can drive real value, giving you a clear picture of their practical applications.



**Chapter 7** focuses on measuring success and fostering continuous improvement, ensuring your solution remains effective in the long term.



**Chapter 4** helps you navigate the selection process, ensuring you make a well-informed decision.

We hope you find this guide insightful and practical as you embark on your connected worker journey. Let's get started!

# The Evolution of the Connected Worker

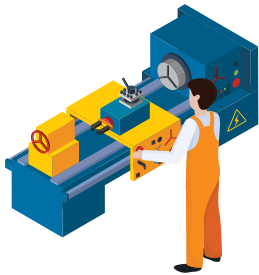
Manufacturing has evolved from manual assembly to a digital age where automation and technology are integral. The First Industrial Revolution introduced mechanization, enhancing productivity but still relying heavily on human effort.

Decades later, Industry 4.0 introduced digital tools like cyber-physical systems, IoT and data analytics to revolutionize the factory floor once again, connecting machines and streamlining processes for massive productivity gains.

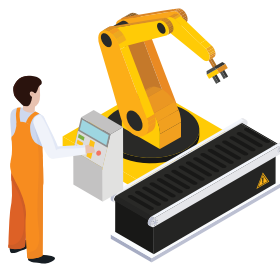
Today, Industry 5.0 is pushing human-centric innovation, emphasizing collaboration between workers, management and machines. This shift not only optimizes safety, quality and productivity but also empowers frontline workers to take ownership and excel in their roles.

As desk workers have benefited from digital advances since the 1980s, it's now time for their deskless counterparts, who make up 80% of the global workforce, to experience the same level of connectivity and efficiency. By merging human expertise with cutting-edge technology, we ensure peak performance for both machines and people, enhancing the manufacturing landscape.

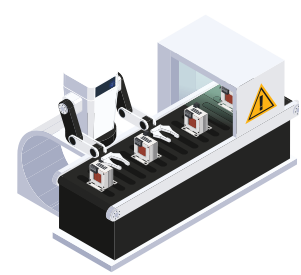
## The Journey to Industry 5.0



Manual Labor



Mechanization



Digitization



Connected Worker



## Chapter 1

# Understanding Connected Worker Solutions

This chapter explores the core functions of connected worker platforms, how they differ from traditional systems and the technological innovations—such as mobile devices, AR/VR, wearables and AI—that support their implementation.

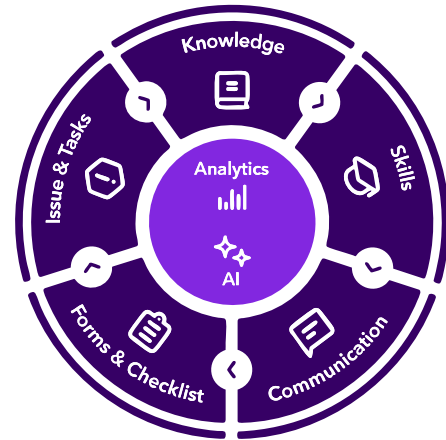
By understanding these solutions, manufacturers can leverage their benefits to improve productivity, safety, communication and overall operational excellence.



# What is a Connected Worker Platform?

The rise of the connected worker is driven by a variety of technological advancements, with connected worker applications at the forefront.

Connected worker applications are designed to enhance workforce efficiency and productivity by supporting digital knowledge management, task execution, communication and collaboration and learning and development, distinguishing them from traditional factory software like HMI, SCADA or MES, which primarily focus on monitoring or controlling equipment.



Connected worker platforms, such as IFS, play a critical role in a manufacturer's digital ecosystem. These platforms empower frontline workers by providing real-time communication, streamlined workflows and access to essential information and tools. By enabling workers to connect with data, colleagues, and tasks directly on the factory floor, connected worker applications reduce variability, enhance decision-making and ultimately boost engagement and productivity.

Technologies like mobile devices, AR/VR, wearables and AI further support the implementation of connected worker apps by enhancing how information is accessed and work is performed. Mobile devices allow instant access to critical data on the factory floor, while AR and VR support immersive training and remote assistance. Wearable technology keeps workers connected and safe with real-time alerts, and AI streamlines processes, automates tasks and supports global collaboration, ensuring efficient and effective operations.

# The Benefits of a Connected Workforce

Implementing connected worker solutions on the factory floor unlocks many competitive advantages for your organization. Key benefits include heightened productivity, improved safety, seamless communication, ongoing learning and development, enhanced quality and the ability to attract and retain top talent.



## Continuous Learning & Development

Connected worker apps enable autonomous, on-the-job learning, accelerating skill development and making training more effective.



## Better Communication & Collaboration

Connected worker solutions ensure seamless communication across teams and shifts, enhancing collaboration and problem-solving.



## Enhanced Safety

Instant access to digital work instructions and checklists strengthens safety protocols and fosters a safety-first culture.



## Increased Productivity

With real-time insights and tools, connected workers can swiftly address issues, reducing downtime and boosting overall operational efficiency.



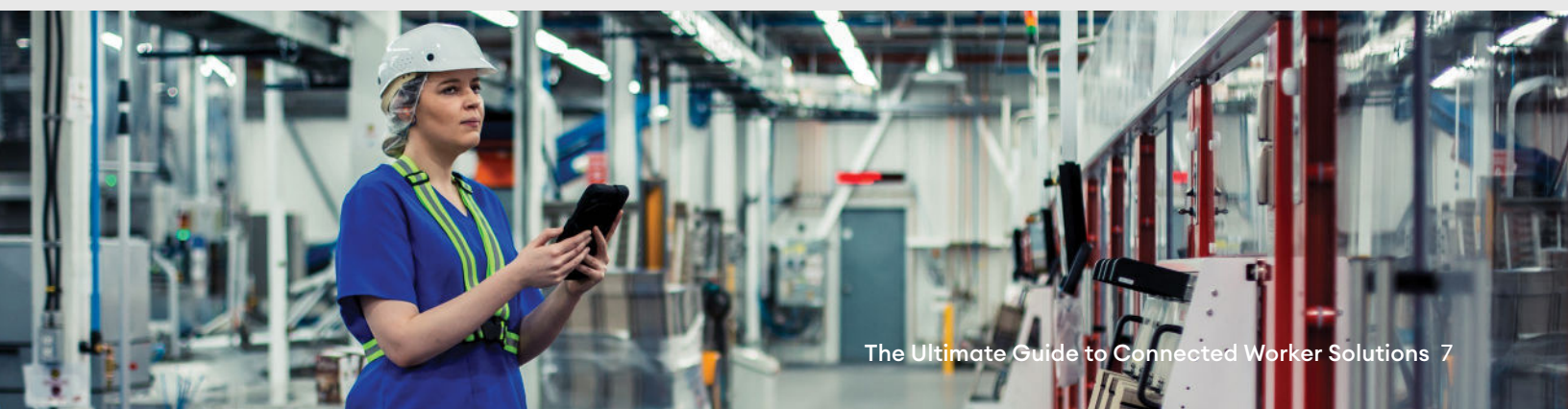
## Improved Quality & Efficiency

Connected workers maintain high standards by easily accessing work instructions and checklists, leading to better quality and more efficient processes.



## Attract & Retain Valuable Workers

Investing in connected worker technology modernizes the workplace, making it more appealing to skilled workers and helping to retain top talent.





## Chapter 2

# What to Look for in a Connected Worker Solution

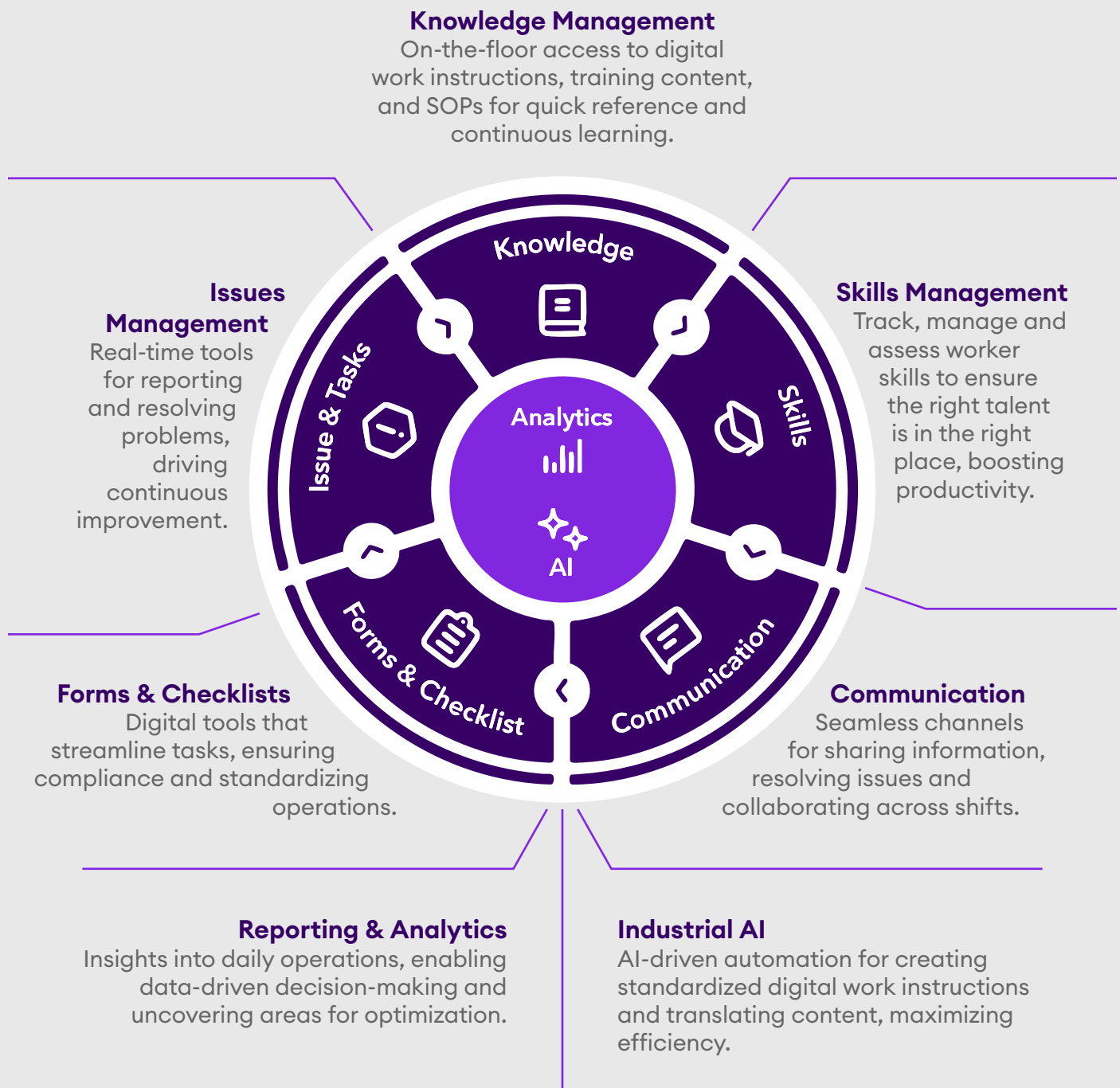
To truly revolutionize manufacturing and enhance productivity, a connected worker solution must go beyond basic functionality. It needs to be a comprehensive, seamlessly integrated platform that is both user-friendly and specifically tailored for the factory floor.

This chapter explores the key attributes of an ideal connected worker solution, including its ability to provide a unified experience, support continuous improvement, integrate with existing systems and scale effectively.



## 2.1. A Single Comprehensive Solution

An effective connected worker platform brings together all the digital tools, information and resources that a factory worker needs into a comprehensive solution. Bringing typically disparate capabilities into a “single pane of glass” ensures a better user experience, higher adoption and fewer systems to manage.



## 2.2. Integrated Features to Drive CI

A connected worker platform should do more than just check the boxes in terms of features—it should integrate them seamlessly to create a unified, powerful tool that drives adoption and supports a culture of continuous improvement.



### Integrated Features

IFS's platform ensures that work instructions, skills management and issue tracking are interconnected, creating a unified experience where each component enhances the others. This holistic integration not only simplifies tasks but also fosters a sustainable culture of continuous improvement.



### Driving Continuous Improvement

With IFS, team members can easily report issues and share knowledge in the flow of work, helping to uncover opportunities for improvement. New best practices are automatically captured and shared across the organization, embedding continuous improvement into daily operations.

## 2.3. Supports Existing Digital Ecosystem

A connected worker solution should enhance, not replace or duplicate, your core systems by integrating into your existing digital factory setup.



### Integrates with Existing Systems

The solution should work with your existing hardware and software, closing data gaps and maximizing the value of your current investments in your ERP, LMS, QMS, CMMS and other digital systems. Integration tools like APIs and connectors are key.



### Integrates with Daily Operations

Your chosen connected worker solution needs to fit naturally into the daily workflow of the factory floor. For instance, tablets housing the application with QR codes affixed to machinery makes it seamless to access critical information at the right moment.

## 2.4. Easy to Use

For a connected worker app to succeed on the factory floor and across your organization, it must be easy to use and quick to learn.



### Intuitive Design

A user-friendly interface, inspired by familiar social media tools, makes the platform easy to navigate, reducing the learning curve and boosting adoption.



### On-The Floor Access

The platform should be easily accessed from the factory floor through mobile devices and quick scan QR codes.



### Simplified Daily Tasks

The app should streamline tasks, replacing slow processes like manual paperwork, so workers can focus on their job with minimal clicks and maximum efficiency.

## 2.5. Built for Scale

A connected worker platform must scale to meet the needs of global operations, ensuring effective content sharing, robust security and multilingual support.



### Easy Content Sharing

The platform should simplify sharing standards and best practices across locations, minimizing content creation and maintaining global consistency.



### Robust Security

Protecting sensitive data and connected devices from threats is essential as manufacturing becomes more digital.



### Data Privacy Compliance

Ensuring data privacy and meeting regulations is crucial to safeguard workers' personal information.



### Multilingual Support

The platform should support multiple languages to ensure all workers can access and understand information, promoting effective communication.

## 2.6. Built for the Factory Floor

A connected worker solution must address the specific needs of the factory floor, including data structure, mobile access and continuous improvement.

### Data Structure

The platform should align with manufacturing processes, organizing data to reflect the plant, line, workstation and equipment setup.



### Mobile-First Design

With a mobile-first approach, workers can access the platform and perform tasks from their devices, ensuring flexibility and real-time updates.



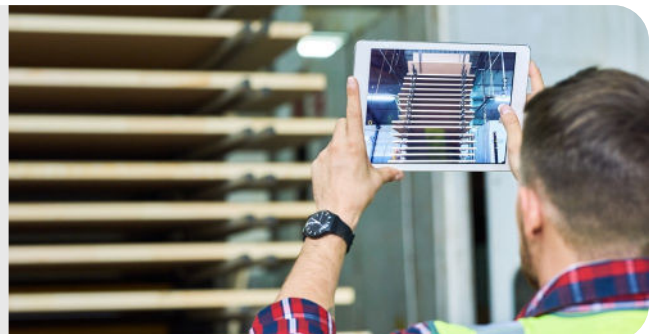
### Continuous Improvement

The platform should support the PDCA loop, enabling workers to discover, document and standardize best practices continuously.



### Manufacturing Use Cases

It should cater to manufacturing-specific needs like operations, safety, maintenance, L&D, CI and quality control, offering tailored solutions and templates.





## Chapter 3

# Connected Worker App Use Cases

Choosing a connected worker solution with the capabilities to support a wide range of manufacturing-specific use cases is crucial because it ensures the solution can address the diverse and evolving needs within companies.

Familiarity with these use cases before making a decision allows you to select a solution that aligns well with your specific operational requirements, from autonomous maintenance to safety protocols.



# 3.1. Operations

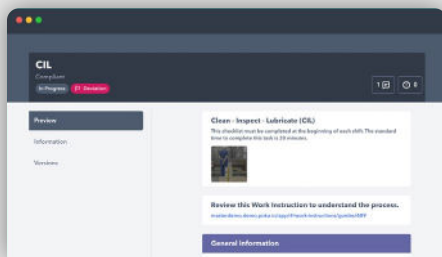
## Improve OEE and Drive Productivity

A connected worker app streamlines operations and provides real-time insights into production and can reduce downtime or productivity losses that are tied to ‘man or method’.

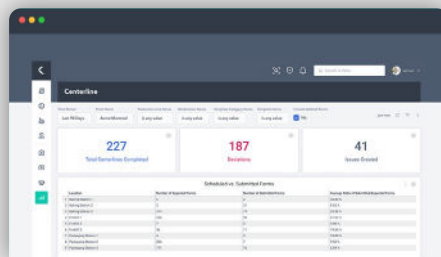
### IFS can help your operations team:

- Improve access to critical operational knowledge
- Improve collaboration across shifts, departments and plants
- Ensure processes and tasks are followed to standard
- Identify and resolve issues faster
- Capture, analyze and gain insight from operational data

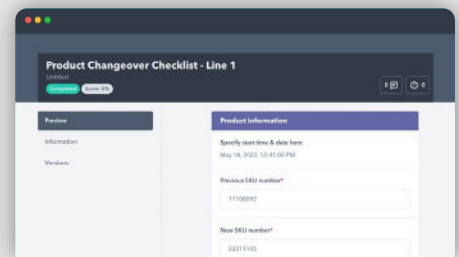
## Operations Use Cases



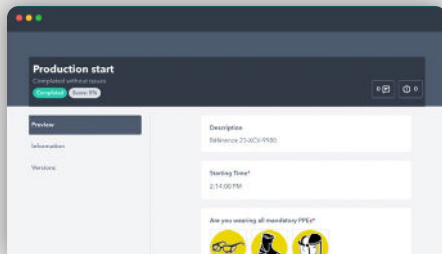
Clean, Inspect, Lubricate (CIL)



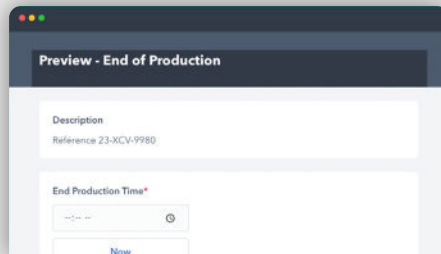
Centerlining Validations



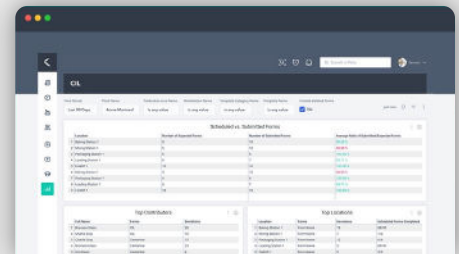
Changeovers



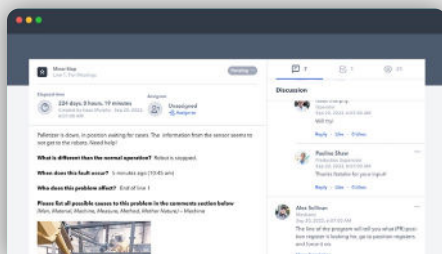
Start of Production Checks



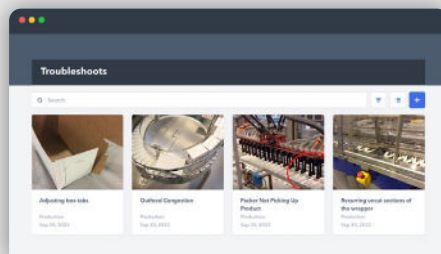
End of Production Checks



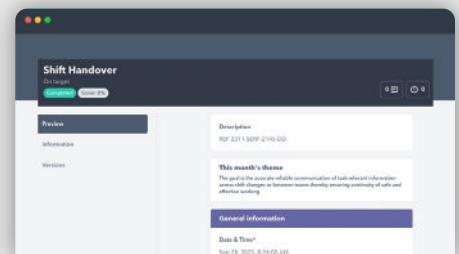
Cleaning in Place (CIP)



Minor Stops



Autonomous Maintenance



Shift Reports

# 3.2. Health & Safety

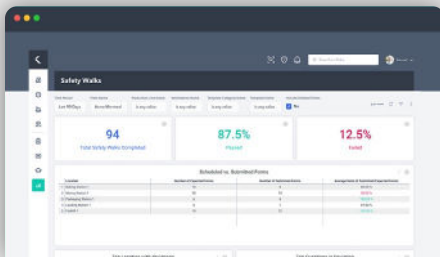
## Reduce Safety Risk and Improve Compliance

Safety is everyone's responsibility on the factory floor, and a connected worker app like IFS goes beyond formal safety training to foster safety culture maturity.

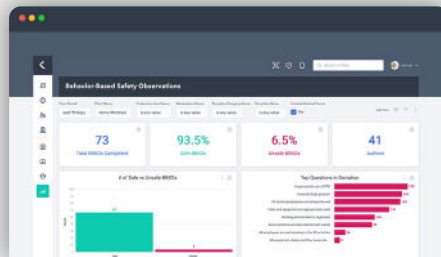
### IFS can help your organization:

- Improve access to critical H&S content
- Streamline and standardize safety training and certifications
- Keep safety top of mind
- Ensure safety standards are followed
- Identify and resolve issues faster
- Capture, analyze and gain insight from H&S data

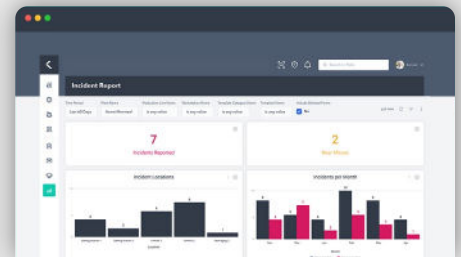
## Health & Safety Use Cases



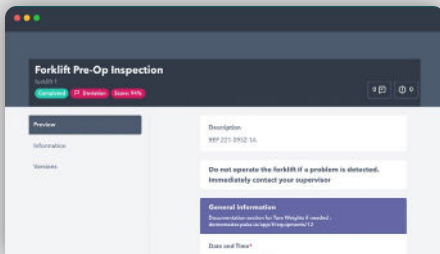
Safety Walks



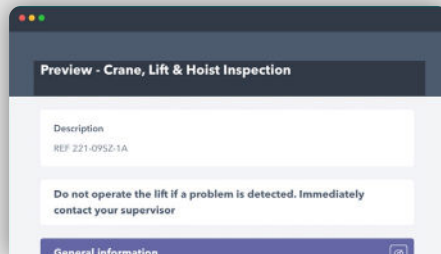
Behavior Based Safety Observations



Incident Reports



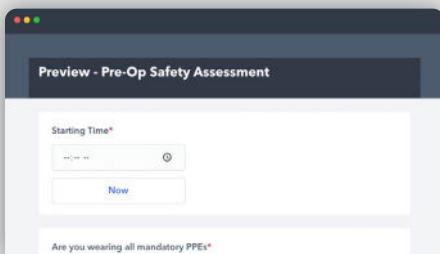
Forklift Inspections



Crane and Lift Inspections



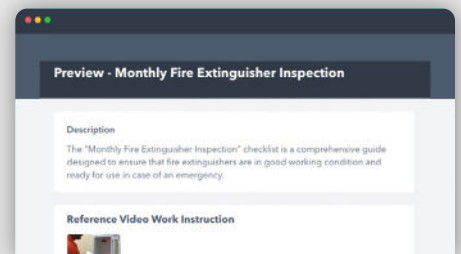
Near Miss Reporting



Pre-Op Safety Assessments



Safety Audits



Fire Equipment Inspections

### 3.3. Maintenance

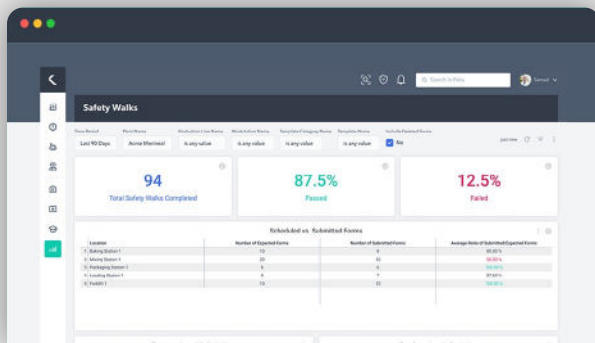
#### Improve Asset Availability and Performance

Connected worker platforms are not replacements to core CMMS or EAM platforms. Instead, they can extend the value of existing maintenance systems by improving communication between maintenance and production around issues, reporting outages and supporting autonomous maintenance.

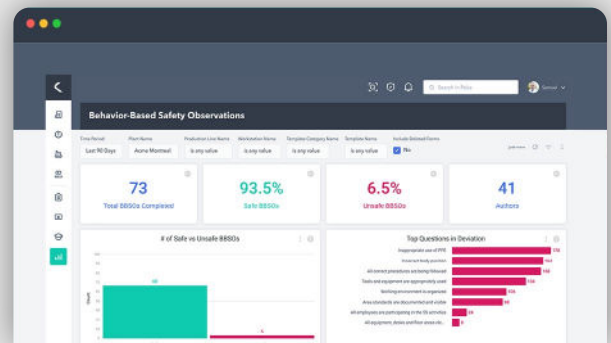
#### IFS can help your organization:

- Improve access to OEM and machine content
- Streamline and standardize maintenance training and certifications
- Empower collaboration for optimal team performance
- Ensure autonomous maintenance processes are followed to standard
- Identify and resolve issues faster
- Capture, analyze and gain insight on equipment issues

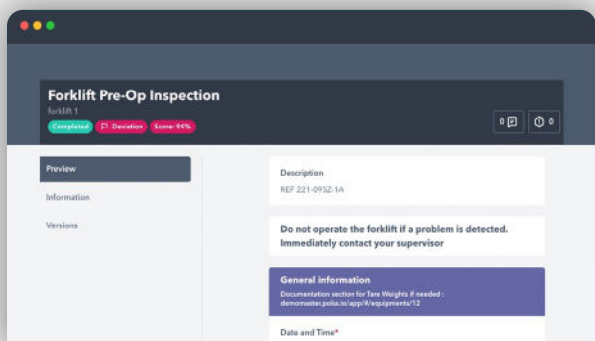
### Maintenance Use Cases



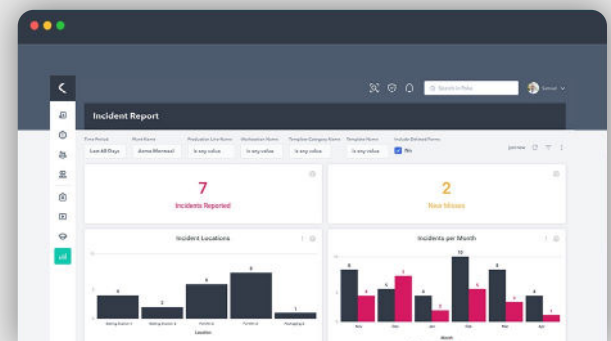
Lock-Out-Tag-Out (LOTO)



Preventive Maintenance Rounds



Equipment Outages



Condition Monitoring

### 3.4. Continuous Improvement

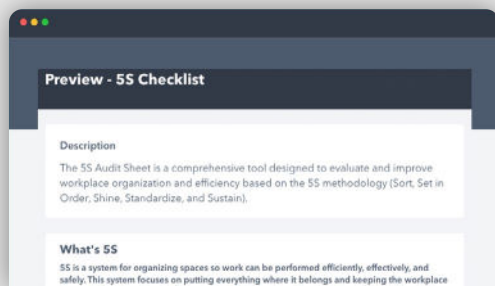
#### Turn Issues Into an Opportunity to Learn and Improve

A connected worker app supports CI by empowering workers with digital SOPs, data insights, collaborative tools and streamlined processes, fostering a culture of operational excellence.

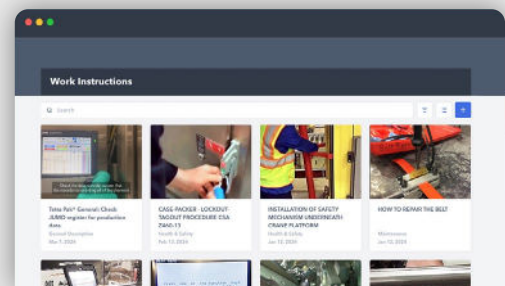
#### IFS can help your organization:

- Improve access to CI-related content
- Empower collaboration for optimal team performance
- Ensure CI standards like Gemba walks and 5S are followed
- Identify and resolve issues faster
- Capture, and gain insight from production data to do pareto and root cause analysis

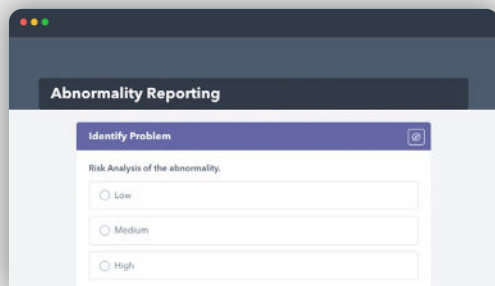
### Continuous Improvement Use Cases



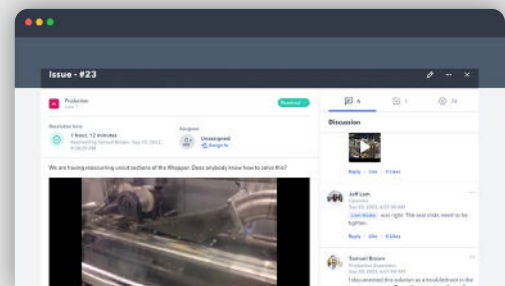
5S Checklist



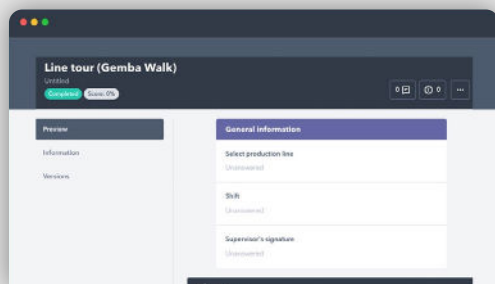
Standard Work Procedures



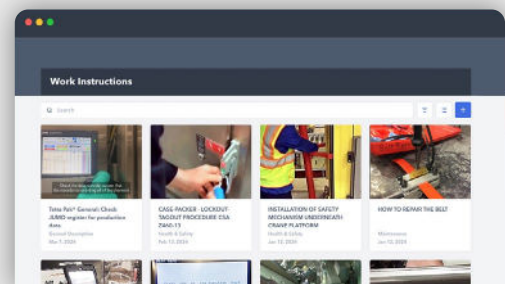
Abnormality Reporting



Tacit Knowledge Capture



Leader Standard Work



Operational Knowledge Management

### 3.5. Quality

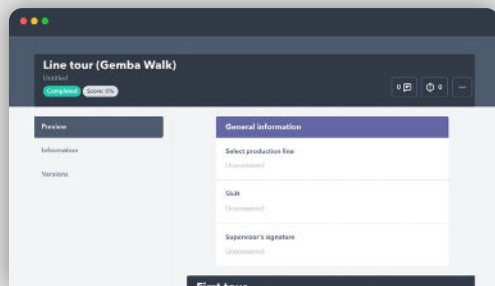
#### Reduce Defects, Rework and Waste

By empowering every worker with the tools and information they need to execute and monitor standardized processes, a connected worker app makes quality a company-wide responsibility, helping to reduce product defects and waste.

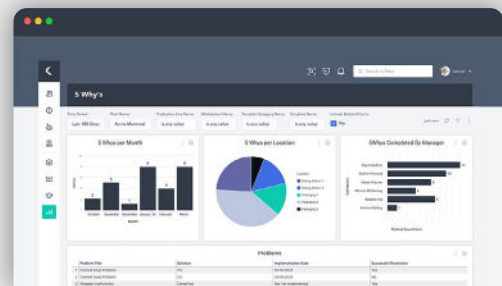
#### IFS can help your organization:

- Improve access to quality standards content
- Streamline quality-related training and certifications
- Empower collaboration for optimal keep quality control top of mind
- Ensure quality standards are followed
- Make certain observations and issues are captured to standard
- Capture, analyze and gain insight from quality data

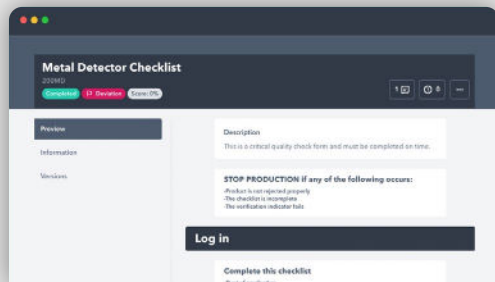
#### Quality Use Cases



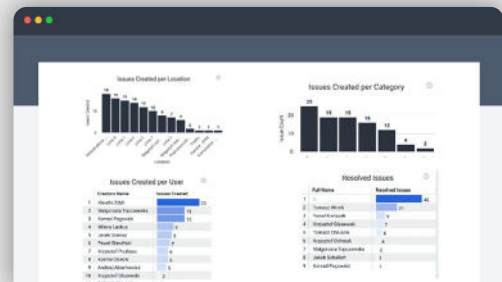
Gemba Walks



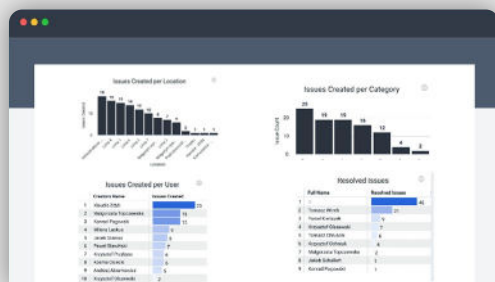
5 Whys



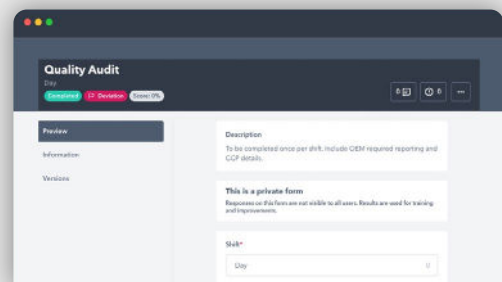
Metal Detector Checks



Defect Reporting



Process Monitoring



Quality Audits



### 3.6. Learning & Development

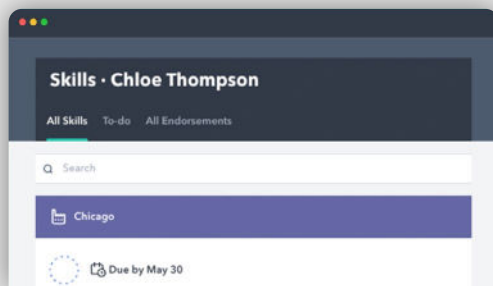
#### Build Workforce Skills, Confidence and Versatility

A connected worker app like IFS offers robust solutions for delivering role-specific and compliance training, helping to attract, upskill and retain skilled labor.

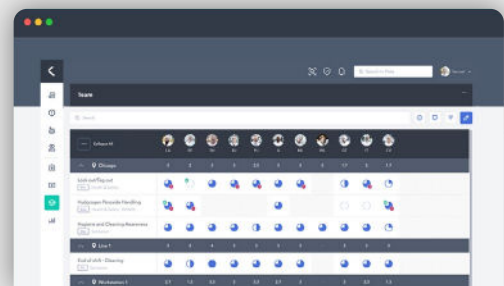
#### IFS can help your organization:

- Improve access to critical operational knowledge
- Reduce the time and cost to train and onboard workers
- Streamline compliance training
- Ensure processes and tasks are followed to standard
- Analyze skills gaps and identify training priorities
- Streamline the creation, access and communication of operational content with AI

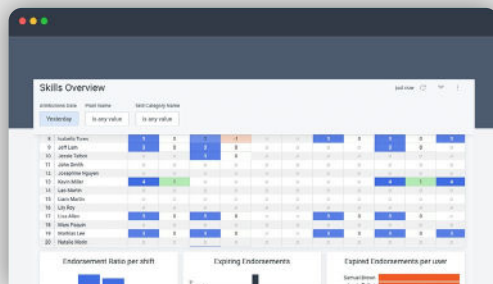
#### Learning & Development Use Cases



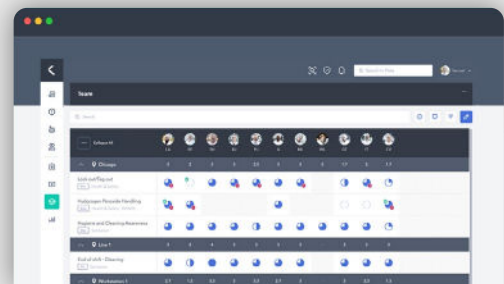
New Hire Training



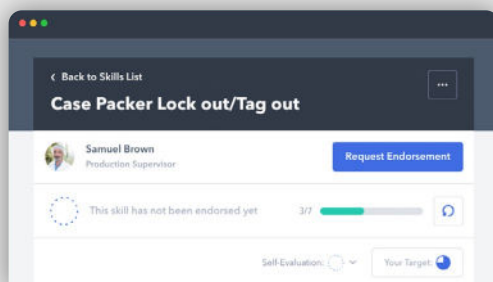
Skills Target & Gap Management



Training Audit & Compliance Management



Revision Training Management



Skills Training Delivery



## Chapter 4

# Selecting the Right Solution

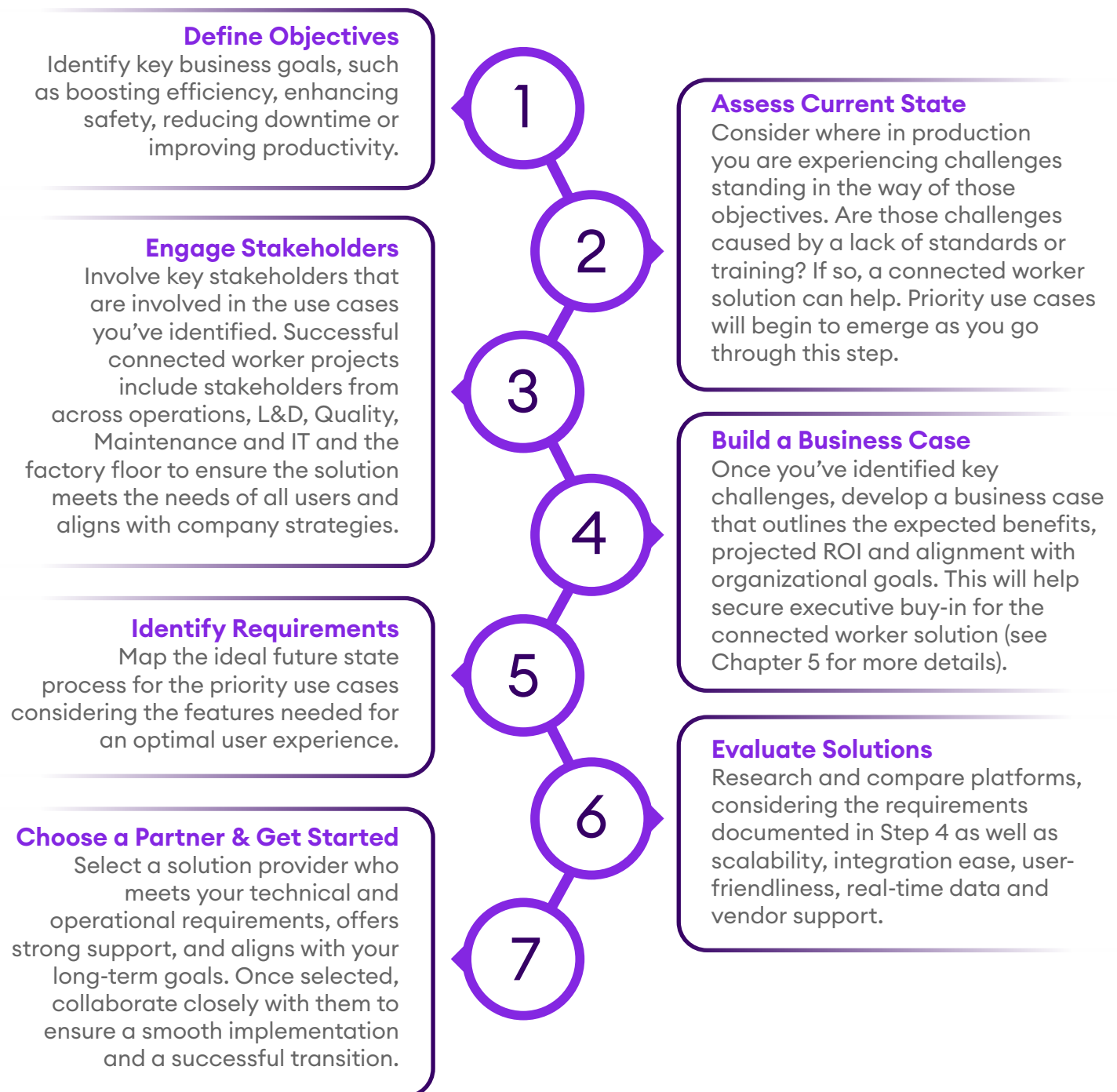
Selecting the ideal connected worker solution is crucial for boosting operational efficiency and empowering your workforce. A careful evaluation ensures that the solution fits both your current needs and future objectives.

Here's a brief guide to assist you in making this important choice, with your vendor playing an active role in ensuring your success.

# 4.1. How to Conduct a Needs Assessment

When conducting a needs assessment for a Connected Worker Solution in a manufacturing organization, it's important to follow a structured approach to ensure the solution aligns with both the current and future needs of your operations.

## Here's a step-by-step guide



## 4.2. How to Evaluate Potential Vendors

When evaluating vendors for a Connected Worker Solution in a manufacturing organization, it's important to consider several key criteria to ensure the solution meets your business needs effectively.



### 1. Product Fit and Quality

Ensure the solution aligns with your specific needs, including scalability and key features like real-time analytics and system integration.



### 2. Vendor Reputation & Experience

Check the vendor's industry track record, looking for positive reviews and successful case studies in manufacturing.



### 3. Pricing and Cost Structure

It is important to consider the total cost of ownership of any solution. Beyond software license fees, ask about services, hardware, integration and other related costs.



### 4. Support and Training

Verify that the vendor offers onboarding, training, support and other services, to ensure fast time to value and strong user adoption.



### 5. Integration Capabilities

Make sure the solution integrates well with your current systems, enhancing existing workflows rather than disrupting them.



### 6. Security and Compliance

Choose a vendor with strong security measures like SOC 2 Type 2 certification, encryption and access controls, while also ensuring their solution complies with industry regulations, especially in sectors like pharmaceuticals or food production.



### 7. Customer Service and Responsiveness

Evaluate the quality of customer service, focusing on the vendor's ability to respond quickly and effectively to any issues.



### 8. Vendor Stability & Longevity

Consider the vendor's financial health and long-term stability to ensure ongoing support and updates.

## 4.3. Make Sure it's Built for Enterprise

For global companies with a network of production sites, selecting a solution that is built for enterprise use is essential for long-term success. Look for the following “-ilities” that indicate enterprise readiness.



### Shareability

The platform's data structure should support easy sharing of best practices and standards across all locations, languages and departments, ensuring consistent quality and adherence to standard work worldwide.



### Reliability

The solution should offer high reliability with minimal downtime, backed by a proven track record of consistent performance.



### Scalability

The platform should seamlessly expand with your organization, adapting to increased user demands and incorporating additional functionalities as needed.



### Interoperability

The solution should integrate smoothly with your existing technologies, enhancing overall operational efficiency without disrupting current processes.



### Flexibility

Choose a solution with flexible deployment options that can evolve alongside your organization. It should be compatible with various platforms (iOS, Android, web) and leverage emerging technologies like AR to boost training and operational efficiency.



### Configurability

The platform needs to allow administrators to configure permissions and visibility in a way that balances global governance with local site preferences.





## Chapter 5

# Building the Business Case

A Business Value Assessment (BVA) is essential for gaining buy-in and prioritizing the use cases of a connected worker solution because it provides a clear understanding of the potential benefits, aligns the solution with business goals and informs decision-making with a detailed ROI and TCO analysis.

It also identifies and addresses risks, engages stakeholders to ensure their support and documents findings to secure executive approval, ensuring that the investment is strategically sound and adds real value to your organization.

## 5.1. Collect & Analyze Critical Data

Begin by collecting essential SQDC KPIs that reflect your current operations, such as the number of employees, direct labor rate per hour, production volume, overtime hours and more. Measure run hours and the number of production lines to build a clear picture of your organization's performance. This analysis helps establish a baseline to measure the direct impact a connected worker solution can have on efficiency, productivity and overall output.

## 5.2. Define the Opportunity

Identify how much you can potentially save by implementing a connected worker solution. Consider key metrics like reductions in safety incidents, improvements in product quality, enhanced productivity and shorter onboarding times for new employees. By quantifying these improvements, you'll be able to project potential savings and identify where the solution will deliver the most value.

## 5.3. Evaluate the Costs

Carefully evaluate the total costs of the solution. This includes software expenses such as licenses, implementation support and professional services. Factor in hardware costs, which might involve a one-time fee for devices. Lastly, account for training—calculate the time and resources required to bring workers up to speed. By outlining these costs, you can determine the true total cost of ownership (TCO) and ensure no hidden expenses are overlooked.

## 5.4. Create an ROI Timeline

Develop a realistic timeline that outlines how quickly you'll recoup your investment. Assess both the immediate and long-term financial returns, looking at potential ROI over the next five years. This helps build an actionable business case, showing stakeholders when to expect a return and the sustained benefits that the connected worker solution will bring to the organization over time.



## Chapter 6

# Implementation Best Practices

Implementing these best practices is crucial for ensuring a successful transition to a connected worker solution. By clearly communicating the benefits, you help employees understand the value of the new technology, which boosts acceptance and enthusiasm.

Together, these practices drive smoother adoption, improve user satisfaction and maximize the impact of the connected worker solution on organizational efficiency and productivity.



## 6.1. Engage & Support Management

Management plays a critical role in the successful deployment of a connected worker solution. Ensure your managers understand the value and are committed to actively supporting the initiative. Their involvement will drive adoption and align organizational goals, making it easier for workers to embrace the change.



## 6.2. Gain Worker Buy-in

The success of any new technology depends on the willingness of workers to adopt it. Clearly communicate how the connected worker solution improves their daily tasks, making their jobs easier and more efficient. Offering training and addressing concerns upfront helps build trust and encourages early adoption.



## 6.3. Involve Key Stakeholders Early

For a successful connected worker implementation, engaging key stakeholders from the beginning is essential. Involve cross-functional teams like IT, L&D and Operations early to ensure that the solution integrates seamlessly across departments. Change management should be a priority during this phase—communicate the vision clearly and address any concerns to minimize resistance. By ensuring stakeholders are invested from the start, you foster alignment on the benefits of the new solution, leading to smoother adoption and long-term success.



## 6.4. Set Your Team Up for Success

Ensure your infrastructure can support the connected worker platform by optimizing Wi-Fi coverage throughout the facility and creating processes for the access, use and maintenance of mobile tablets. Streamlining processes and preparing the tech environment ahead of time helps avoid disruption and ensures a seamless transition for frontline workers and managers.



## Chapter 7

# Measuring Success & Fostering Continuous Improvement

The journey toward fully maximizing the value of your connected worker solution begins as soon as you go live. To truly realize its potential, you must continuously measure success against the target KPIs identified in your BVA, and look for new opportunities and use cases to implement.

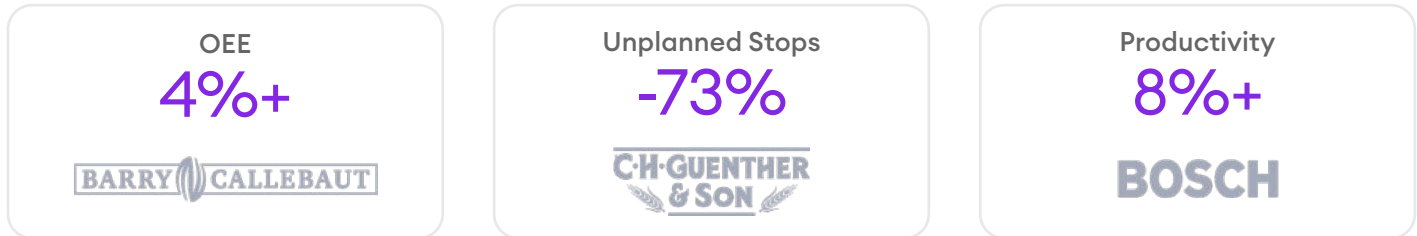
This chapter will guide you through key performance indicators that can be impacted with a connected worker platform.



## 7.1. Key Metrics to Track

### Productivity

Monitor productivity or OEE on lines before and after the implementation of a connected worker use case. For example, improvements in a product changeover process, setup time or the amount of unplanned downtime.



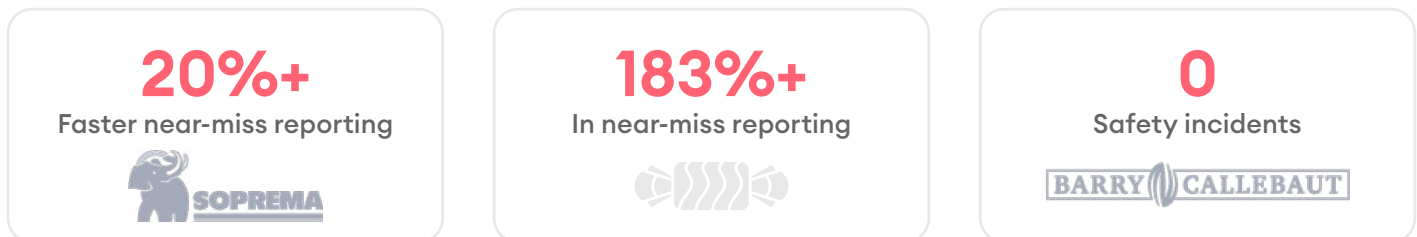
### Quality

Measure defect rates, rework and waste. Connected worker solutions should enhance quality control by standardizing processes and improving real-time issue tracking, leading to fewer defects and higher consistency.



### Safety

Track safety incidents, near misses and compliance with safety protocols. The goal is to see a decrease in risks and incidents as workers become more informed and compliant.



### Skills

Track training and certification progress. A connected worker solution boosts workforce skill development, leading to better task efficiency, faster onboarding, increased worker engagement and higher retention rates.



## 7.2. Creating Feedback Loops



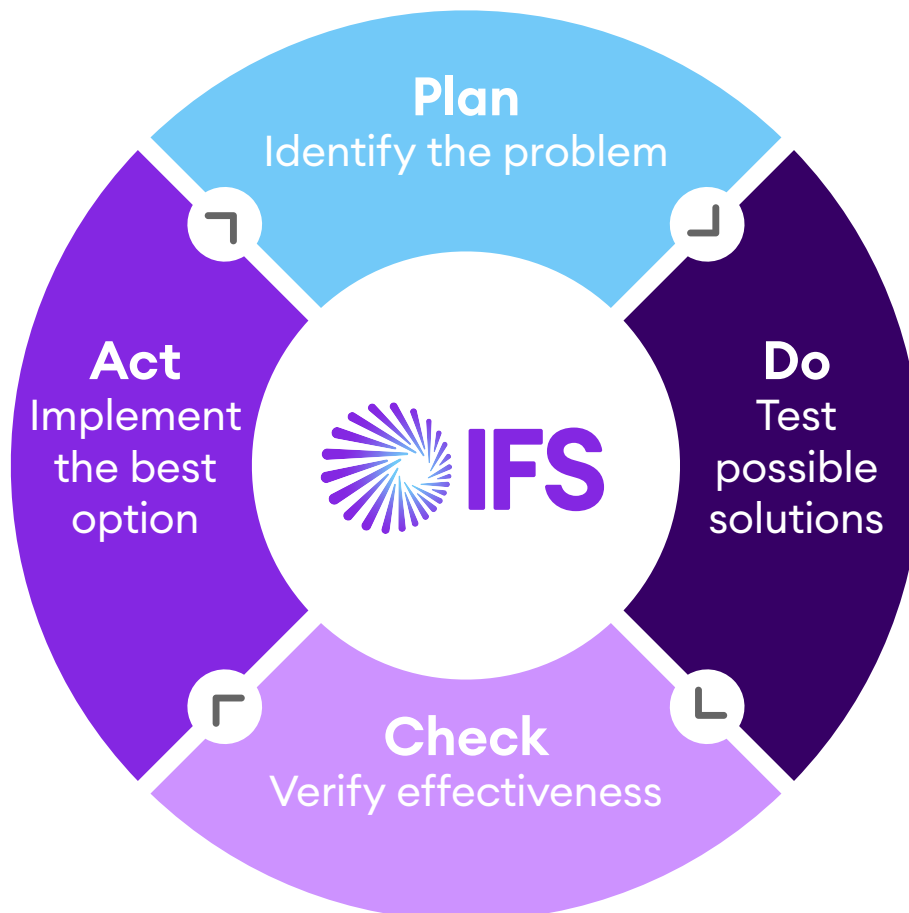
### Gathering Feedback

Regularly solicit input from workers and managers to understand how the solution is performing on the ground. This could be done through surveys, focus groups or informal check-ins. The aim is to capture insights on usability, effectiveness and any challenges faced by the workforce.



### Iterative Improvements

Use the feedback gathered to make iterative improvements to your connected worker solution. Whether it's refining workflows, updating training materials or enhancing the user interface, small, continuous adjustments based on real-world feedback ensure the solution evolves with your organization's needs.



## Conclusion

# Next Steps in Your Connected Worker App Journey

## Final Thoughts

As you conclude this guide, you're equipped with a comprehensive understanding of connected worker solutions and how to leverage them to enhance operational efficiency and workforce engagement. This journey is just beginning, and the steps you take now will shape the future success of your organization.

As you move forward, remember that adopting a connected worker solution is not a one-time event but an ongoing process. Continuous improvement and adaptation are key to unlocking the full potential of your solution. Stay agile, keep learning from your workforce and be open to new technologies that can enhance your operations further.

## Next Steps

Now that you're prepared to take the next steps in your connected worker journey, don't hesitate to reach out for additional support. Whether you need help with selecting the right solution, implementing best practices or measuring success, our team is here to assist you.

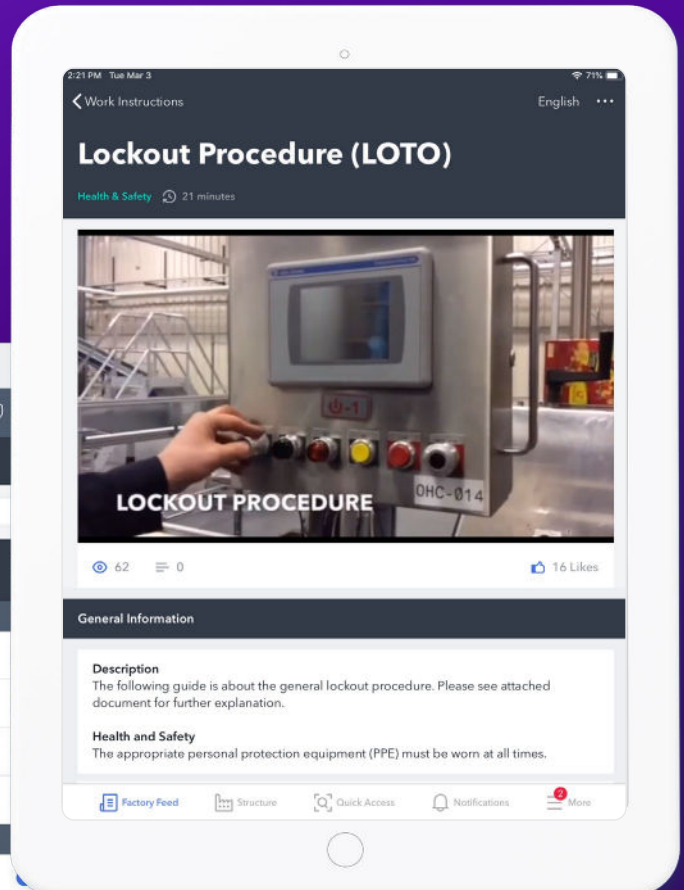
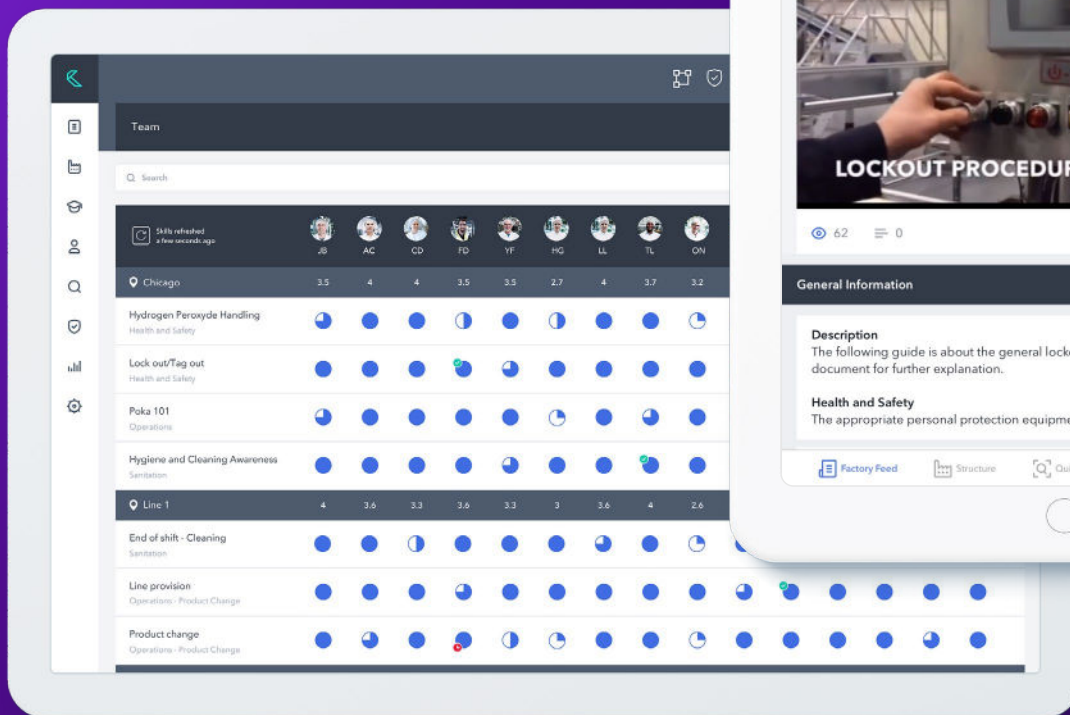
For more information or personalized guidance, please contact us. We look forward to partnering with you on this transformative journey.

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