



# Augmented Reality Multi-Source Knowledge Platform

for Enterprise Field Services and Production Operations



# Driving Value from Industrial Digitalization

Digital transformation is revolutionizing the industrial sector - and field services in particular - as enterprises seek ways to reduce downtime, increase operational revenues and preserve knowledge of their aging workforce. By exploiting Augmented Reality technology for technical collaboration and integrated knowledge access, Fieldbit provides an enterprise-grade platform that facilitates digital transformation in large-scale industrial and field service organizations.

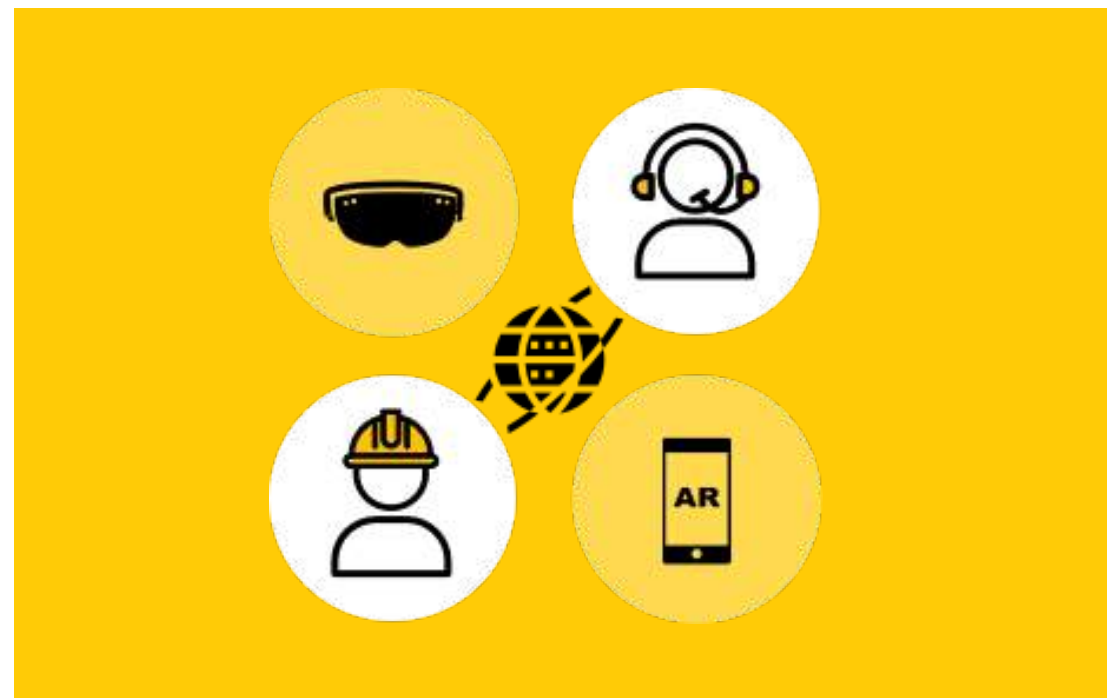
Deployed worldwide, our augmented reality multi-source knowledge platform connects field technicians, front line workers and equipment operators with subject matter experts, enterprise knowledge bases and industrial IoT (IIoT) systems to accelerate the resolution of complex technical issues on the first try.

Streamlining field services and production operations, Fieldbit's cloud-based platform offers uncompromising security features, advanced user management and seamless integration with back office and IIoT systems.



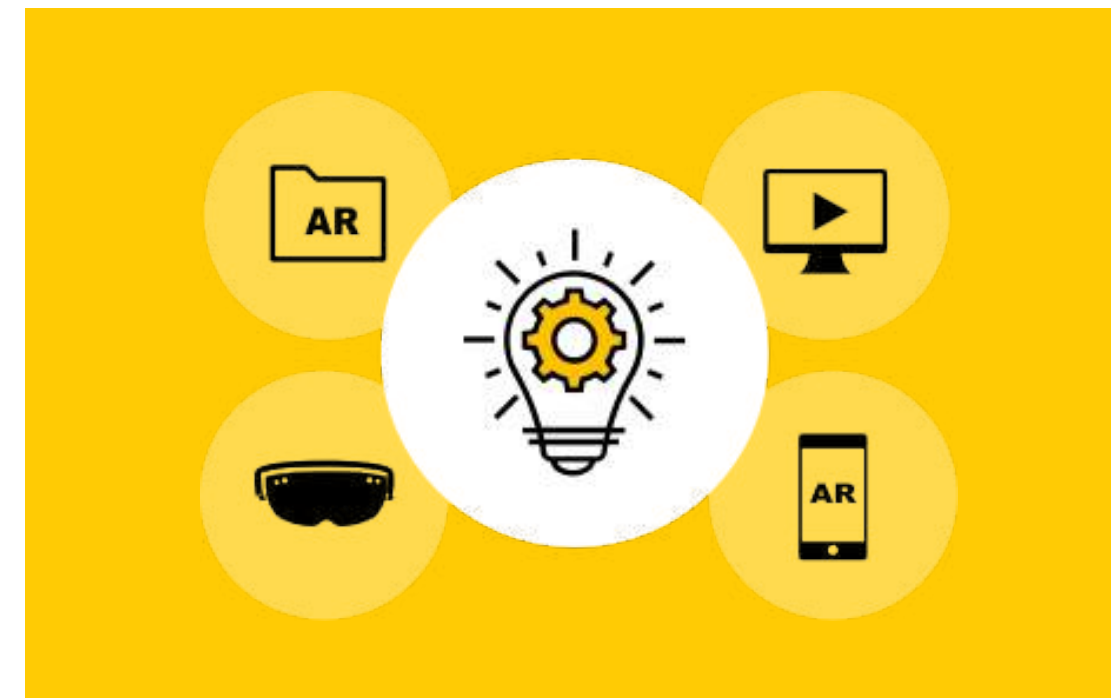
# Augmented Reality End-to-End Platform

Harnessing and integrating Augmented Reality (AR), live video, computer vision, spatial computing technologies and smart glasses, Fieldbit has created a comprehensive platform that addresses the key use cases of industrial organizations. These technologies are the foundation for all our “Software as a Service” (SaaS) solutions.



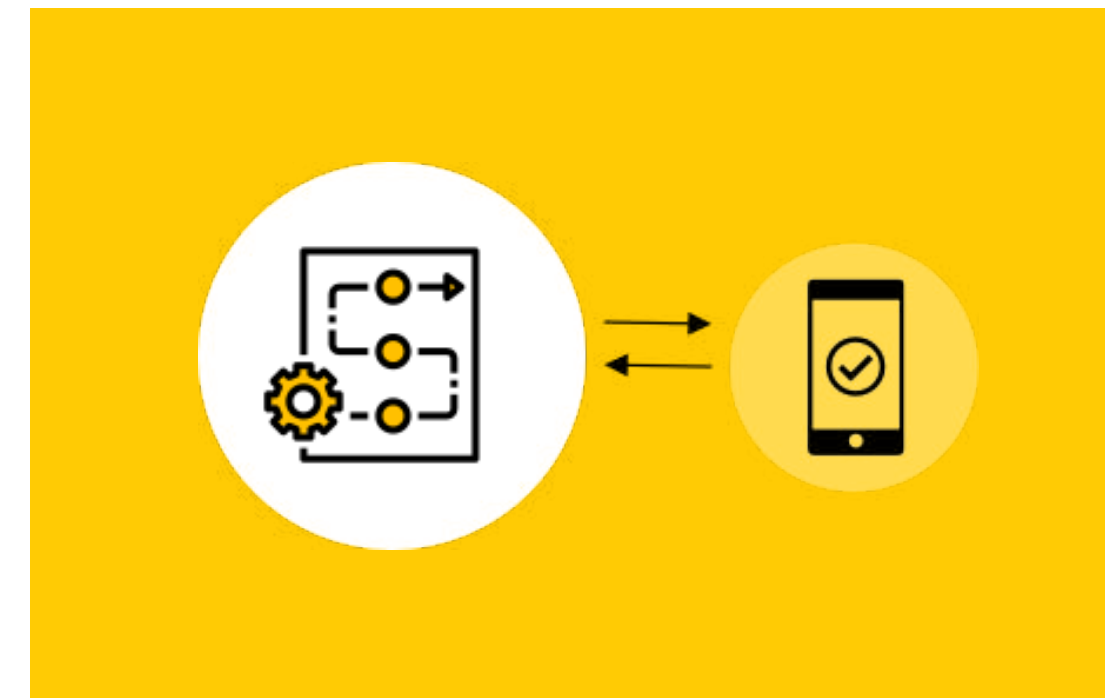
## Remote Assistance

Remote collaboration (See-What-I-See) and Augmented Reality annotations among field technicians, SMEs and end customers helps resolve technical issues on the first try.



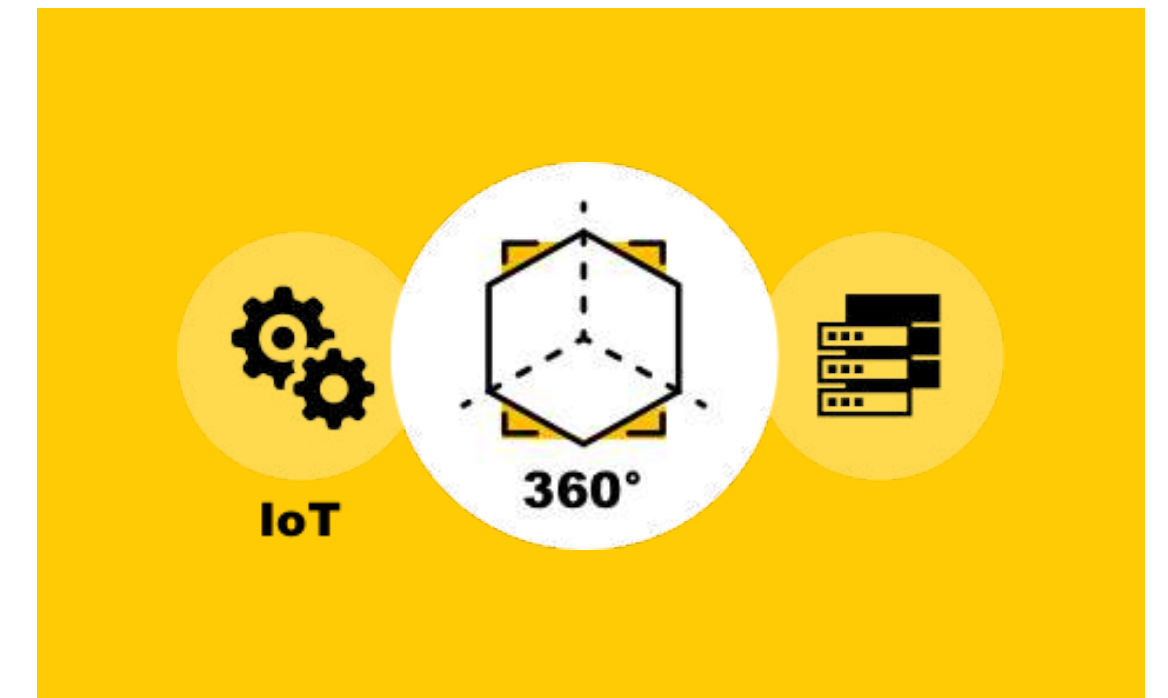
## Knowledge Sharing

Capture the best known methods and on-job practices of the most experienced technical personnel and share across the company through Knowledge libraries.



## Digital Procedures

Build standard operation and safety procedures using interactive authoring tools and share with users on mobile devices.



## Spatial AR

360-degree AR presentation of IoT data, reference materials and navigation instructions for equipment and instruments installed at the production site.



# Remote Assistance

Using live video, online AR editor and navigation tools, a subject matter expert can share the field of view of a remote technician or customer (See-What-I-See) and send precise step-by-step AR annotations to help resolve technical issues or diagnose problems. All instructions and exchange of materials during a remote assistance session are recorded and saved in Fieldbit tickets for further root cause analysis and subsequent reuse.

## Use Cases

- Helpdesk provides support to customers
- SME supports technicians on remote site
- SME supports front line workers at production floor
- On-job training for new hires
- Invite external experts/vendors to assist
- Remote quality assurance with suppliers

## KPIs

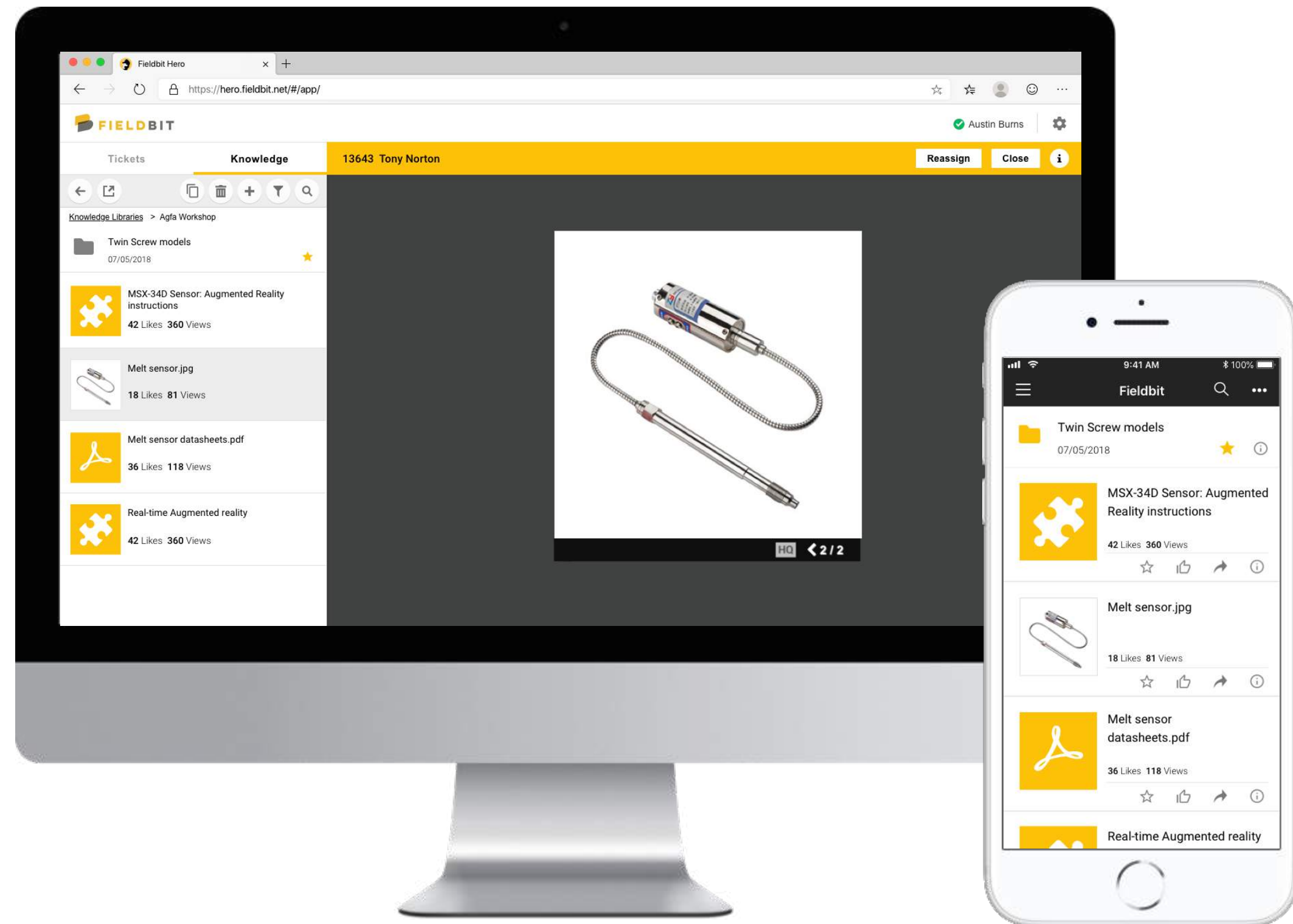
- Increase remote resolution rate
- Improve first-time fix rate
- Shorten on-job training
- Shorten cycle/lead time with suppliers
- Reduce equipment downtime





# Knowledge Sharing

Secure repository of on-job knowledge comprising an enterprise's best-known methods and practices captured as AR interactive instructions (Snippets), digital procedures, videos and pictures with annotations and reference documents. Users can access Fieldbit knowledge libraries online and offline according to a customized permissions scheme.



## Use Cases

- Documenting and systematizing on-job practices
- Sharing knowledge of the “Aging Workforce”
- Reusing instructions from Remote Assistance sessions
- Sharing technical documentation on mobile devices

## KPIs

- Reduce problem resolution time
- Alleviate dependence on experts
- Empower field technicians to be self sustained
- Easy and offline access to technical information



# Digital Procedures

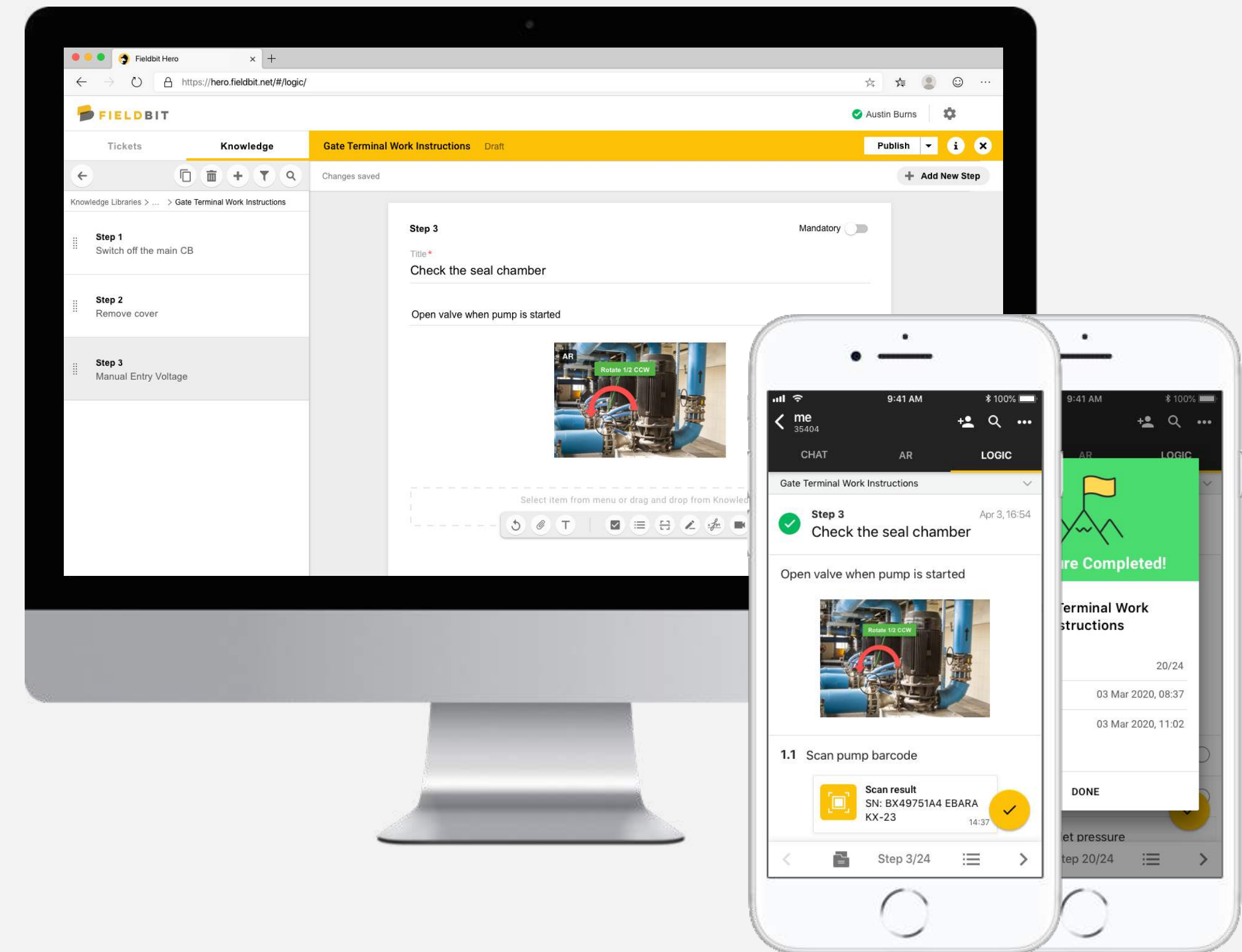
Using interactive authoring tools, editors can create step-by-step operation and safety procedures including AR content, checklists and multi-select options. Each step can comprise conforming actions such as taking pictures, recording measurements or or digital signature to assure evidence of compliance. While performing these digital procedures on a mobile device, the user can also connect to a domain expert for remote assistance.

## Use Cases

- Performing scheduled maintenance tasks
- Equipment installations and setup
- Site inspections
- Safety regulations
- “As Maintained” feedback to engineering

## KPIs

- Assure compliance with requirements
- Improve transparency of maintenance works
- Increase safety
- Improve input quality by reducing falsification and errors
- Improve efficiency and save time





# Spatial AR

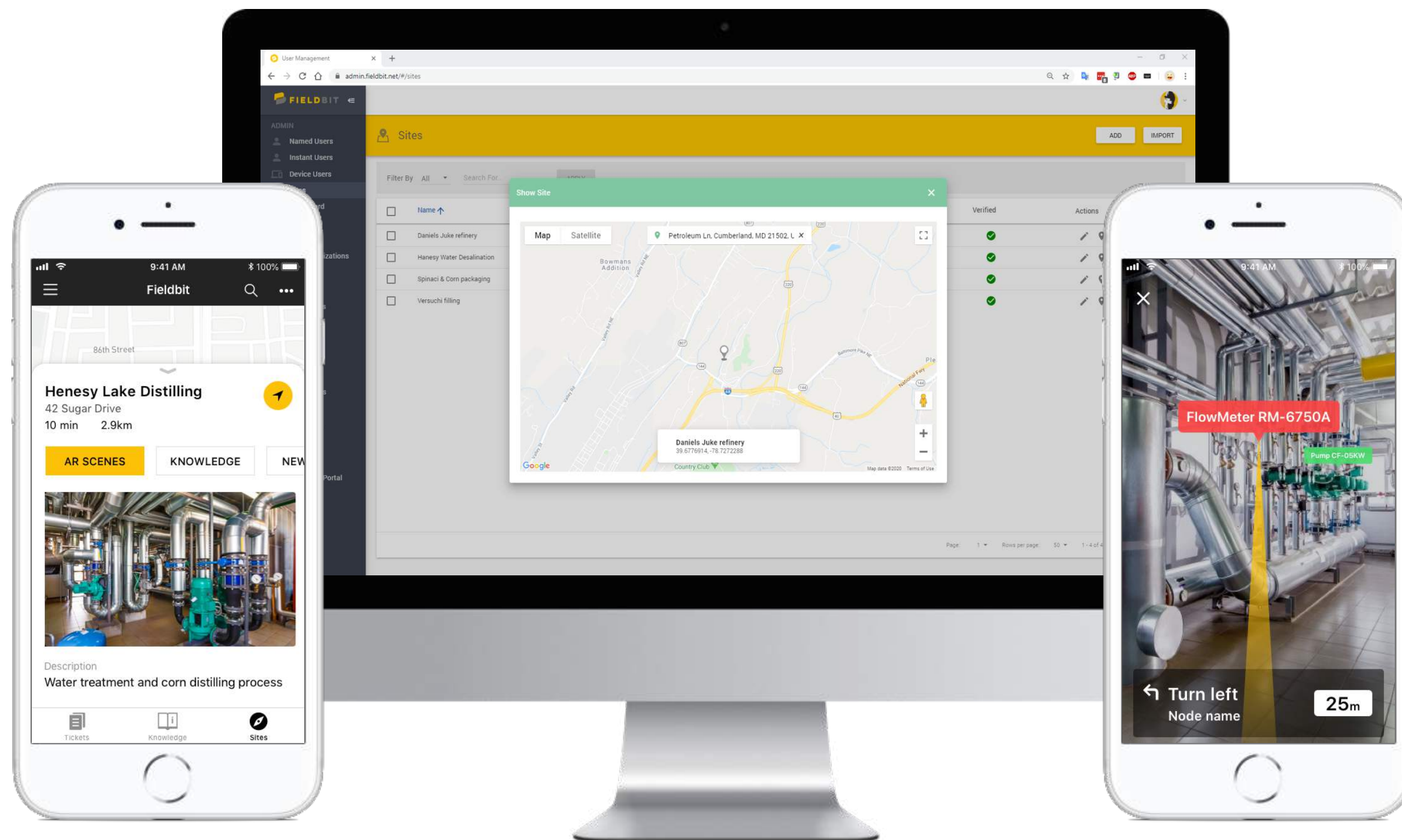
360-degree AR layer presenting context-sensitive information about the equipment and instruments (AR Nodes) installed at your site. With a smartphone camera, the user can scan the environment and view live IoT data and statuses, access reference documentation or receive indoor and outdoor navigation instructions. Authorized users can quickly add a new AR Node and connect it to different information sources such as control systems tags or data from ERP/AMS platforms.

## Use Cases

- Plant operation, maintenance and shift handover
- Onsite inspection using real-time data
- Indoor navigation to equipment
- Visual detection of errors and equipment faults
- Documenting installed equipment and devices

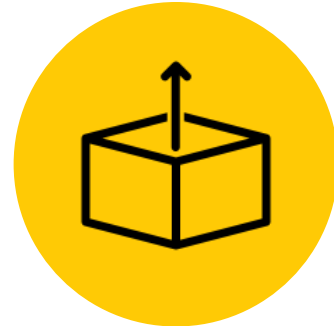
## KPIs

- Faster resolution of malfunctions/downtime events
- Reduce time for searching equipment and devices
- Faster access to real-time data or reference info
- Improve safety and efficiency
- Empower frontline workers to be self sustained



# Unrivaled System Design to Address Your Vital Operational Needs

Fieldbit's platform was designed to meet the unique demands of digitized industrial and field service workforce management. The underlying architecture provides robust performance, data security and access to company knowledge on low bandwidth networks or in offline mode.



## Out-of-the-Box Solution

Fieldbit is a SaaS solution that enables full deployment with zero setup and no initial investments. Subject Matter Experts (SMEs) and authorized users can use Fieldbit mobile or web applications to create AR-featuring digital content, connect to IoT, build SOP or safety procedures and provide remote assistance immediately and without the need for programming.



## Enterprise-Grade Design

Fieldbit's platform is hosted on AWS infrastructure in Europe and USA and provides the highest level of service availability, data integrity and reliability. In addition, Fieldbit offers comprehensive tools to manage a large workforce efficiently: Users can be allocated to sub-organizations and groups and assigned to different permission schemes to allow access only to relevant resources. Managers and administrators can analyze system utilization, licenses allocation and KPIs through the Admin dashboard.



## Integration and APIs

Fieldbit APIs allow connectivity with enterprise applications (ERP/AMS/FSM), control and MES systems, and IoT sources. Software developers have access to online API documentation and can develop customized communication interfaces to enhance Fieldbit capabilities. Fieldbit provides a standard interface with the Salesforce support cases module.



## Your Data Is Always Safe

Customer data security is paramount in the Fieldbit platform. All transactions and data at rest are encrypted with secure TLS 1.2 protocols and 256-bit security keys to safeguard business data. Two-factor authentication for login, password renewal, lockout policies, and data link expiration timeout assure that only authorized users have access to proprietary and private information. Fieldbit is ISO 27001 certified and complies with GDPR and HIPAA regulations.

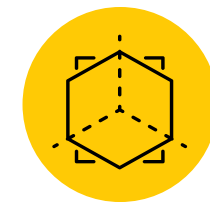


# Why Tier-1 Enterprises Choose Fieldbit



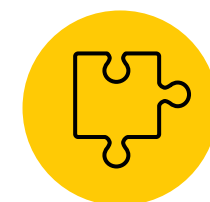
## Built-in Ticketing System

Fieldbit tickets are the underlying framework for Remote Assistance sessions. All instructions, exchange of reference documents and AR content are saved and timestamped on the Fieldbit tickets. Each ticket can be classified according to equipment, model, type of work and other customer-defined parameters. Experts can search and retrieve tickets for root cause analysis or producing reports, as well as reassigning or escalating a ticket to another user.



## Sites and AR Scenes

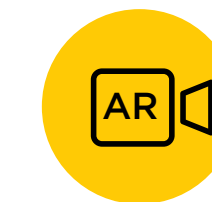
Authorized users can define sites and physical assets and connect them to multiple data sources such as knowledge libraries, live IoT data or information from external systems. Data from these knowledge sources can be augmented on physical objects in real time. Using spatial AR, users can navigate through the production floor and receive context-sensitive information and IoT data in 360 degrees about each instrument or equipment.



## Integrated Knowledge Libraries

Knowledge libraries are a unique infrastructure for creating, capturing and sharing the best on-job practices such as AR Snippets, annotated pictures and videos or reference documents.

These knowledge items can be applied as building blocks in all use cases (i.e., Remote Assistance, Digital Procedures and Spatial AR) and help authorized editors rapidly create AR content.



## Multi-expert AR Conference

Sophisticated, multidisciplinary equipment often requires more than one SME to diagnose, troubleshoot and resolve technical issues. Fieldbit's multi-expert AR-featured video chat (aka Brainstorm) allows inviting internal or external experts, enables a group of experts to conduct internal discussions or share field of view with a remote user and guide him/her to resolve a problem. The ticket owner can control how and who provides support to a remote user.



## Rich AR Editing Tools

Fieldbit makes it easy to create rich AR content online. Experts can receive HiRes pictures from a remote user or capture images from live video and add AR annotations including clipart objects, step-by-step instructions, shapes and text callouts. These AR annotations are immediately displayed on a smartphone or smart glasses of a remote user and can be used in Digital Procedures or shared through Knowledge Libraries.

# Multi-Source AR Knowledge

Fieldbit utilizes Augmented Reality to provide visual and context-sensitive access to five different knowledge sources to increase efficiency and productivity of field technicians and front-line workers

## Enterprise Integration

Integration with enterprise systems including documentation of service and maintenance tasks, compliance reports and feedback on spare parts selection

## Digital Procedures

Conduct maintenance tasks, ensure safety and train new generation of front-line workers using AR-guided operational procedures

## Subject Matter Experts

Live communication between helpdesk, SMEs, technicians and end-customers using visual AR guidelines



## IIoT Data

Navigate through production floor and view 360-degree augmented real-time data from IIoT platform

## Knowledge Libraries

Capture best-known methods and on-job practices from experienced personnel and share across the organization

# Smart Devices for Augmented Reality

Fieldbit's patented HeadTeraactive™ UI/UX technology is designed to run on any smart glasses in noisy and harsh industrial environments. This "hands-free" technology enables a 360-degree view, full access to information and reliable, error-free interactions with smart glasses.

Fieldbit partners with best-of-breed industrial smart glasses vendors and utilizes smart glasses capabilities such as voice commands, noise cancelation, and interactive zoom to provide a seamless wearable experience.

Fieldbit's platform is hardware agnostic, supporting Android and iOS mobile devices and industrial smart glasses.



Desktop



Smart glasses



Android



iOS



## Recommended devices and specifications:

Android devices: OS 7.0 or higher

iOS devices: iPhone 6S or higher, iPad or iPad Mini 2017 or newer

Smart glasses: RealWear HMT-1, Vuzix m-400



**50%**

Increase Remote Resolution Rate (RRR)



**20%**

Increase service profitability



**30%**

Improve First Time Fix (FTF) rates



**40%**

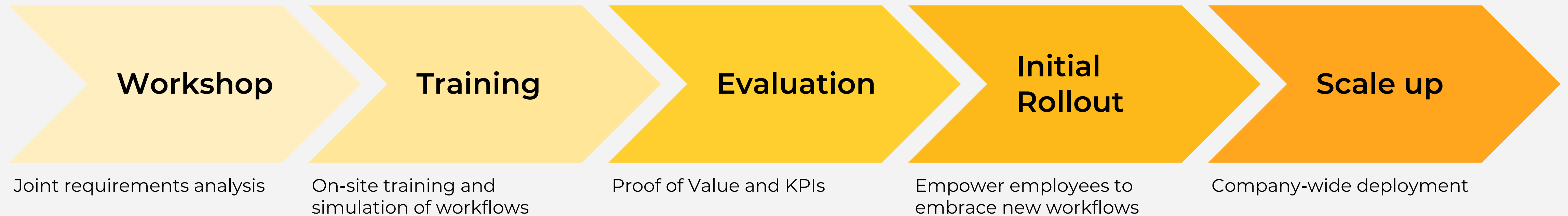
Reduce on-the-job training times

## Benefits and KPIs

Fieldbit helps enterprises meet and exceed operational KPIs to improve efficiency and productivity of their field services workforce:

- Improve remote resolution by guiding end customer through troubleshooting
- Increase first-time fix rates by providing technical assistance to remote technicians
- Shorten on-job training by enabling novice technicians to be guided by experienced peers
- Facilitate self-sustaining operation by accessing IoT data and multi-source knowledge
- Boost quality and reduce lead time through remote inspection with suppliers

# Field-Proven Implementation Methodology to Assure Business KPIs



The deployment of disruptive technologies and digitalization processes requires a careful approach built to engage diverse stakeholders including field technicians, frontline workers, support engineers, SMEs, team leaders and senior management. Installing a new software system is not enough – successful digitalization requires buy-in across the entire organization.

Fieldbit's tailored implementation methodology helps customers maximize benefits from their technology investment. Fieldbit's Customer Success team works together with project managers and team leaders to ensure that all goals and KPIs are achieved. Our implementation experts assist in identifying use cases and building optimal workflows that ensure smooth adoption within your environment. The combination of Fieldbit methodology and customer domain knowledge provides significant value and ensures successful implementation.

# Flexible License Scheme with Immediate ROI

A flexible license scheme enables customers to tailor the Fieldbit platform to their business needs and pace of technology adoption with immediate ROI.

- Avoiding unnecessary travel of experts to remote locations
- Shortening time of technical support calls with customers
- Minimizing equipment downtime via faster resolution of technical issues
- Reducing mistakes in selection of spare parts based on highly accurate diagnostics
- Improving quality and lead time through remote inspection with suppliers
- Enabling instant access to company knowledge resources

Description	Professional	Enterprise
Remote Assistance with AR annotations	✓	✓
Support smart glasses, iOS and Android devices	✓	✓
Ticketing systems	✓	✓
Admin dashboard	✓	✓
Knowledge libraries	+	✓
Digital procedures	+	✓
Spatial AR	+	+
Sub-organizations, user groups, permissions		✓
Advanced security features		✓
Single Sign On		✓
APIs integration and Salesforce Link		✓

✓ Included    + Optional



Machinery



Medical



Energy



Telco

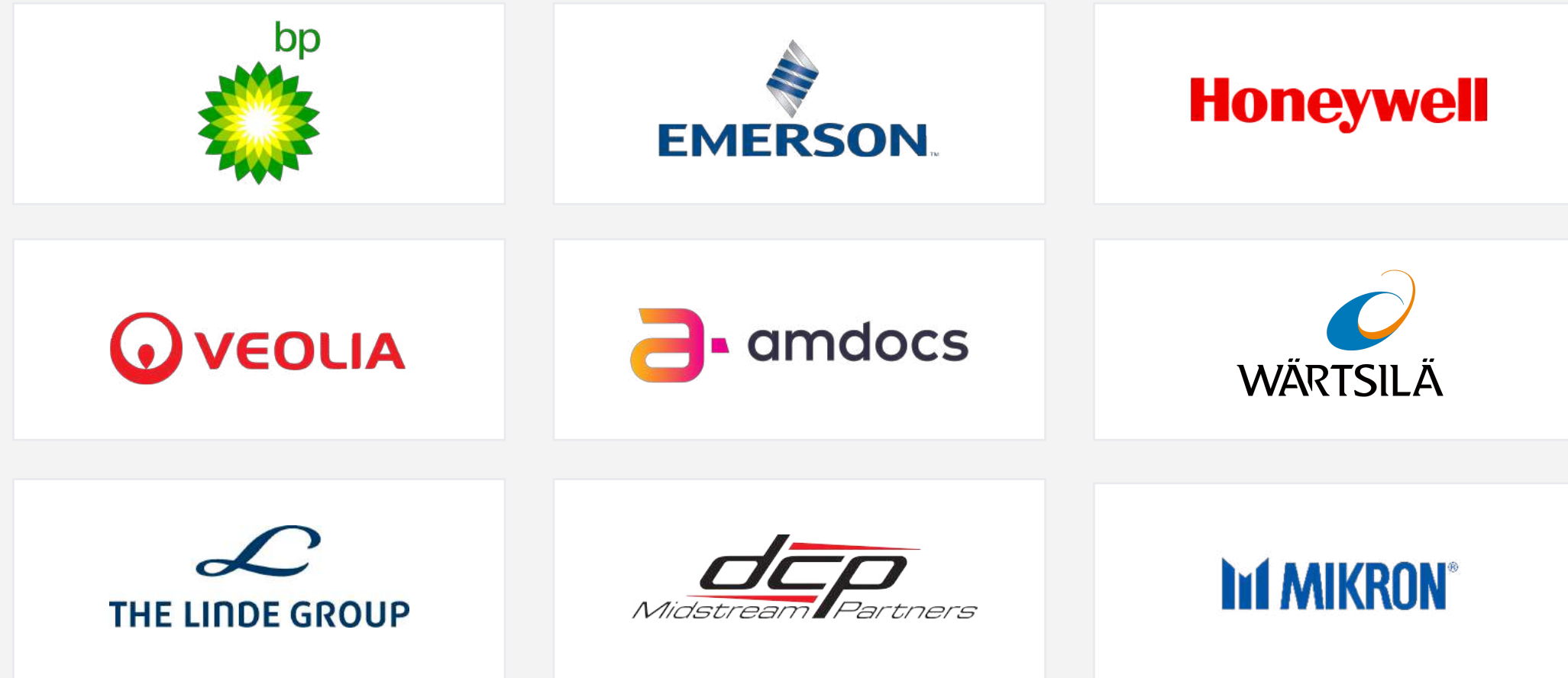
## Serving a Variety of High-End Industrial Markets

Fieldbit's scalable end-to-end solution is highly suited for high-end industrial and service organizations with hundreds and thousands of technicians, front line workers, experts and end-customers.

### Fieldbit serves the following vertical markets:

- **Equipment vendors**  
Manufacturers of industrial equipment, medical and life science equipment, production printers, and machine builders
- **Industrial and Infrastructure**  
Oil & Gas, renewable energy, utilities and telcos

## Selected Customers



## Partners



”

*Fieldbit will strengthen our customer's access to knowledge and timely advice and will enable them to get the most out of their installations in all circumstances*

**Noel Nunkovich**

IoT Expert Veolia Water Technologies

”

*Utilizing Fieldbit, we immediately troubleshoot problems, reducing downtime*

**J.C. Chambers**

Technology Ventures Associate - DCP Midstream

”

*Faster repair times allows us to lower costs to our customers*

**Raymond Janssen**

Sales & Operation Manager Axians - Vinci Energies company



# About Fieldbit

Established in 2014, Fieldbit leads the field services and industrial digitalization market with its widely acclaimed augmented reality multi-source knowledge platform. This field-proven, enterprise-grade offering helps industrial organizations embrace Augmented Reality technologies to achieve their twin goals of operational efficiency and revenue growth from service and support products.

Fieldbit was founded by a team of entrepreneurs with rich experience in industrial automation, computer science, technology development and leadership. Our breakthrough platform merges agile development methodology with cutting-edge research in the augmented reality domain, along with a profound understanding of the challenges related to digital transformation in large field service organizations.

Fieldbit has been recognized by Gartner, Vinci, GE Digital and other industry leaders for its innovative field services digitalization approach and patented technology.



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