IBM Maximo Assist

Bring technician productivity and engagement to the next level

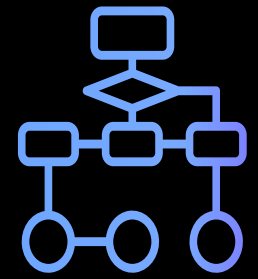
A digital re-invention
is disrupting the operating model of asset intensive industries

Equipment is connected and can predict its own failures

Artificial Intelligence (AI) is changing the driving experience

Airports are becoming automated

Buildings are smart and operate more efficiently



Assets are more complex driving engineering complexity

The underlying solutions supporting these assets must change

Daily challenges IBM hears from clients

We want to decrease downtime / improve maintenance

$21K / Minute
Cost of unplanned downtime in large scale auto production

False Positives
Up to 30% in excess maintenance costs

70%
Hours lost with reactive versus preventive maintenance

We need to derive new value from data...

82%
of asset failures appear randomly

99%
of data collected from sensor-enabled assets goes unused

We are losing the most experienced technicians…

30%
of the total workforce is retiring

32%
average turnover in the field workforce

$170B
cost of safety incidents in US industries in 2019

We want to decrease rework and warranty cost…

1.2%
of annual revenue is rework and material waste costs

2.0%
of annual revenue is warranty work costs

The operating model change also applies to technicians

Equipment becoming more complex

Equipment remotely monitored

Experienced technicians retiring

Higher churn for newer technicians

Safety concerns increasing

Maintenance technician support processes

Common

- Aging workforce problem
- Pen and paper world
- No standardized repair processes
- Unnecessary repair and parts replacement
- Data in disparate silos or tribal knowledge
- High overall maintenance costs

No significant change in the way the field service teams operate

Contemporary

- Tools for digital native workforce
- Reliability centered maintenance
- Leverage expertise and share knowledge across organization
- Reduced mean time to action and improved first time fix rate

Technicians are more productive, safer, and in compliance

Organizations can reduce maintenance and operational costs

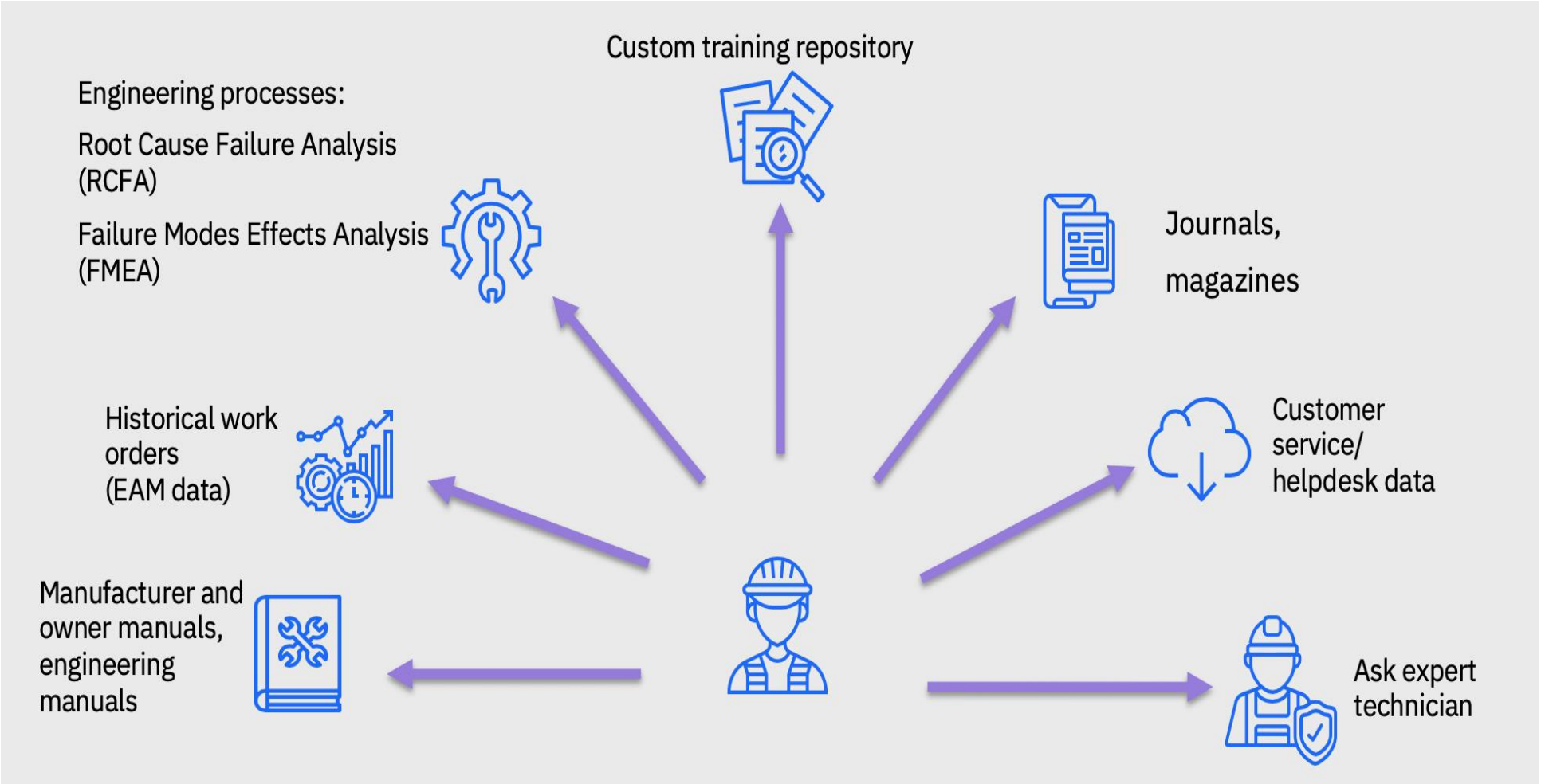
Empower technicians to work autonomously by enabling them to obtain AI guidance or remote expert assistance whenever they need it

20% - 40%

Increased productivity and first time fix

50% - 75%

Reduced training costs



Benefits: Reduce mean time to repair, boost first time fix rates, improve technician productivity

Why Maximo Assist?

- Improve technician productivity
- Boost first time fix rates
- Reduce mean time to repair
- Reduce training costs
- Reduce troubleshooting time
- Increase asset availability
- Reduced overall maintenance costs
- Improve data quality and reporting

Journey to Predict powered by Assist

Visual Inspection
Visual Anomaly detection

Predict
Use data to predict failures

Monitor
Manage and detect anomalies

Health
Manage Health

Manage
Understand and manage maintenance

Mobile/Assist
Inspect
AI/Remote Assist

Digital Twin
1-click download

Application Suite

Maximo Assist leverages next-gen technologies to help technicians perform the job more effectively, accurately, and safely

How it works: solution components

PREPARE

Collect documentation and data

Refine and train model

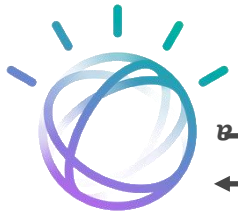
USE

Triggers

Maintenance Management System

Work assigned to technician

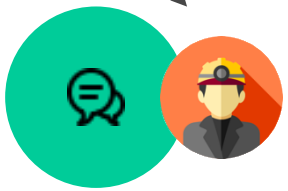
Work history



AI Engine

Responses / Recommendations

Questions



Get Recommendations

Examples:

- *Maximo Assist provides most probable resolutions based on work order assigned*
- *Craftsperson can document other physical observations to have Assist refresh resolutions*
- *Troubleshooting guide*

Ask questions

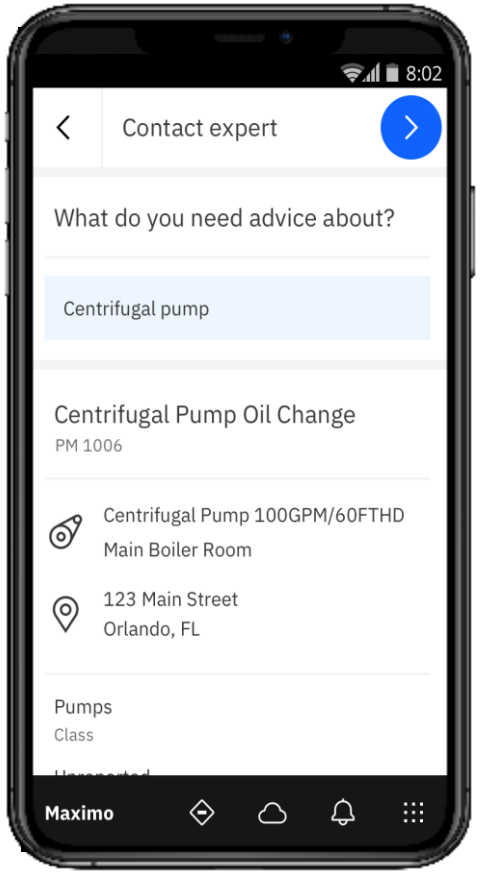
Examples:

- *How do I check the motor starter overloads on Refiner Pump 1271?*
- *Cooling Water Pump VFD 57445 is displaying Failure Code FC002*
- *RTD #3 on Crusher Conveyor Motor #2 is reading 140 degrees C. What could be the problem? (Diagnosis)*
- *How do I change the bearings on High Pressure Compressor #8?*

Augmented Reality (AR) enabled remote expert collaboration

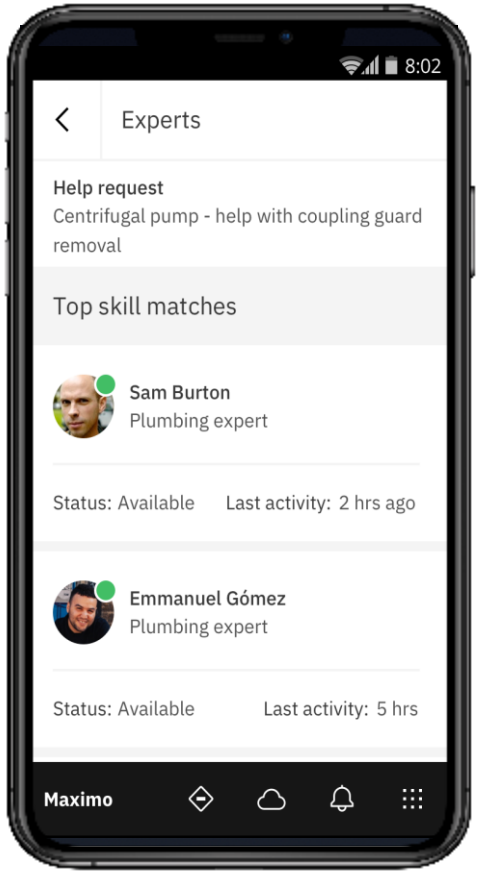
1. Seek advice

Seek advice and contact expert with work order details in context



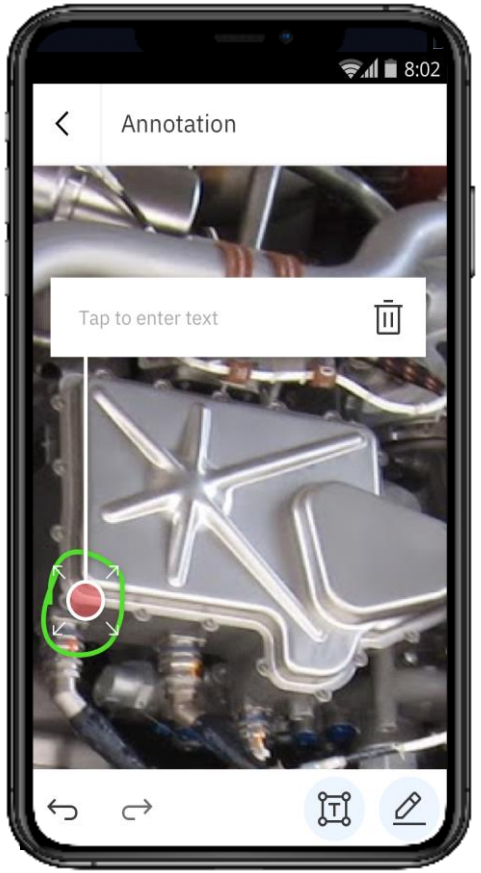
2.Collaborate

Collaborate with an expert based on areas of expertise



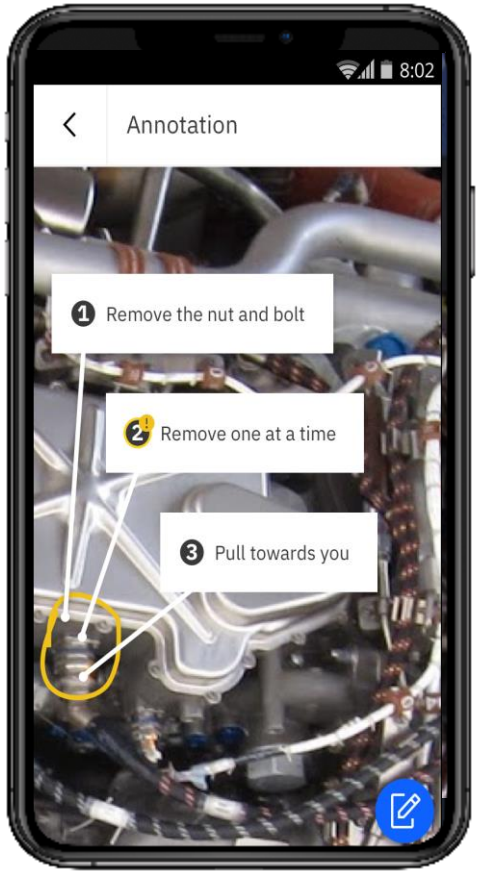
3. Guide

Annotate, diagnose, and get guidance via Augmented Reality (AR)



4. Fix and learn

Fix and learn while saving sessions for future reference and training

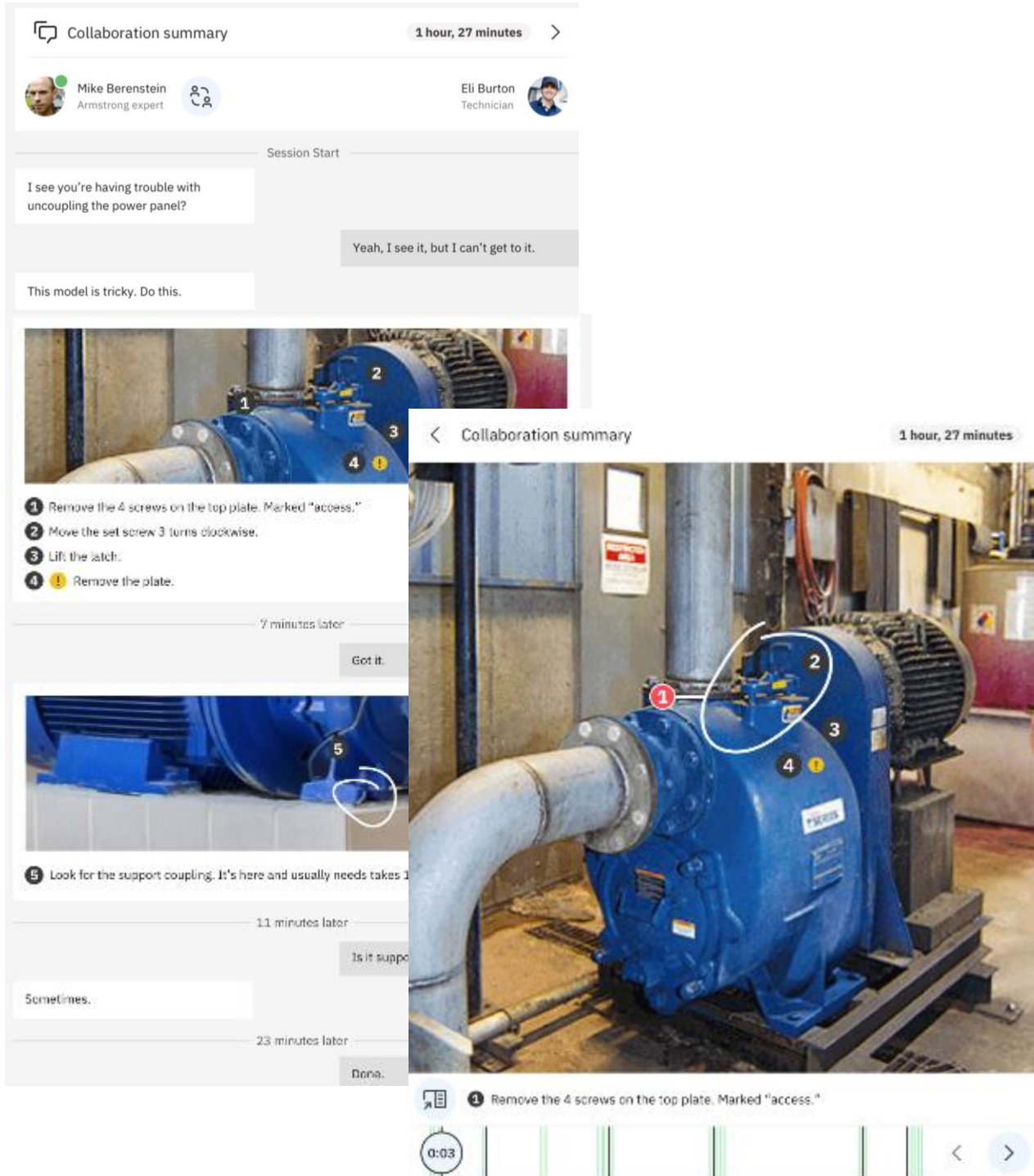


Empower experts and scale tribal knowledge seamlessly

Session history attached to the Maximo work order for future reference and added to AI knowledge base

Capture tribal knowledge and make it searchable next time a similar incident occurs

Enhance experience for new technicians by giving them tools to do the right fix the first time



Japanese electronics and semiconductor company

Uses peer assistance to help every technician perform like the best technician

Uses AR peer collaboration and assistance for regular preventative maintenance and unscheduled maintenance activities

Marked improvement in the time to action for junior technicians. In some cases, junior technicians had the same wrench time as experienced technicians

Peer collaboration and AR helped reduce repair times by up to 50%

Australia's largest independent oil and gas company

Aging workforce, 80% of time spent researching problem

Absorbed over 600,000 pages of documentation regarding drilling equipment

Time spent on researching reduced by 75% which equates to $10 Million AUD worth of time savings

Client has successfully created a bridge for knowledge transfer from past to present

Maximo Assist benefits

Improve technician productivity

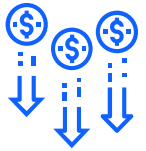
Boost first time fix rates

Reduce troubleshooting time

Reduce training costs

Reduce repair costs

Maximize equipment uptime



Reduce overall maintenance costs

25%

Increase in first time fix

$11.2M

Annual savings in cost avoidance from incorrect procedures and repeat failures

$10M

Annual savings from reduced mean time to action

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