UNLOCKING
VALUE

Through Augmented Maintenance & Safety for Intelligent Motor Control Centers

Motor Control Centers are **critical** to operations

Presenting Rockwell AMS, the augmented maintenance and safety solution to unlocking new MCC value.

This digital overlay experience brings data to life by transforming 2D into 3D. Rockwell AMS makes work accessible via mobile and cloud based tools, and moves worker experiences into AR, making them more interactive.

Unlocking Value
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Production Outages
and Safety
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Augmented
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Maximize Workforce
Productivity
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Improve Safety
and Compliance
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Rockwell Automation

Assessment Potential Realized Value

$5M+

Potential Financial Improvement

With These Solutions

Real Time Product Monitoring

-

Augmented Remote Assistance

-

Digital Frontline Functionality

Improving These Metrics

▲ **10%**
Service Response Time

▲ **7%**
Production Uptime

▼ **14%**
Mean Time to Repair

Achieving This Value

$6M Reduction in Capital Equipment Sustainability

$4M Downtime Avoidance & Rapid Return to Service

$5M Optimize Labor Productivity

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Production Outages and Safety

An unplanned outage can cost major industries more than $200k per minute, meaning saving even just 15 minutes in any given year is a win.

Rockwell Automation

The **high** cost of downtime

Production Outages

Food & Beverage
$8k/min

Auto
$20k/min

Wood Products
$100k/min

Mining/Oil & Gas
$200k/min

$0/min $10k/min $20k/min $50k/min $100k/min $150k/min $200k/min

MAINTENANCE EFFICIENCY
It's a modern worker experience. Who wants to go to a manual anymore?

SAFETY
A Fortune 20 company had a worker leave a LOTO device on an MCC which kept the plant down for hours.

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RA Rockwell Automation

AMS has the potential to **unlock significant savings**

50%

Reduction in Downtime

▼ **40%** **Reduction** in maintenance cost

▼ **80%** **Reduction** in unsafe behavior

▲ **35%** Time **savings** reaching root cause

▼ **30%** **Reduction** in training time

▲ **48%** More **efficient** maintenance procedures

▼ **20%** **Reduction** in safety incidents

▲ **90%** **Improvement** in first-time right repair

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Rockwell
Automation

Augmented Maintenance & Safety

Digital augmentation of workers on the plant floor empowers people and leads to increased employee safety, productivity, and efficiency.

Rockwell Automation

Achieve your potential

Reduce Production Costs

- Improve asset utilization

Maximize Workforce Productivity

- Increased employee safety, productivity, and efficiency

- Accelerated employee ramp time

Improve Safety & Compliance

- Reduce incidents and fines with improved safety protocols that empower confidence in your workforce.

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Rockwell
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Reduce production costs with improved asset utilization

Take immediate action based on status of MCC

Expedite maintenance with easy instructions

Ensure safe maintenance procedures

FACILITATE FASTER TROUBLESHOOTING AND REPAIR

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RA Rockwell Automation
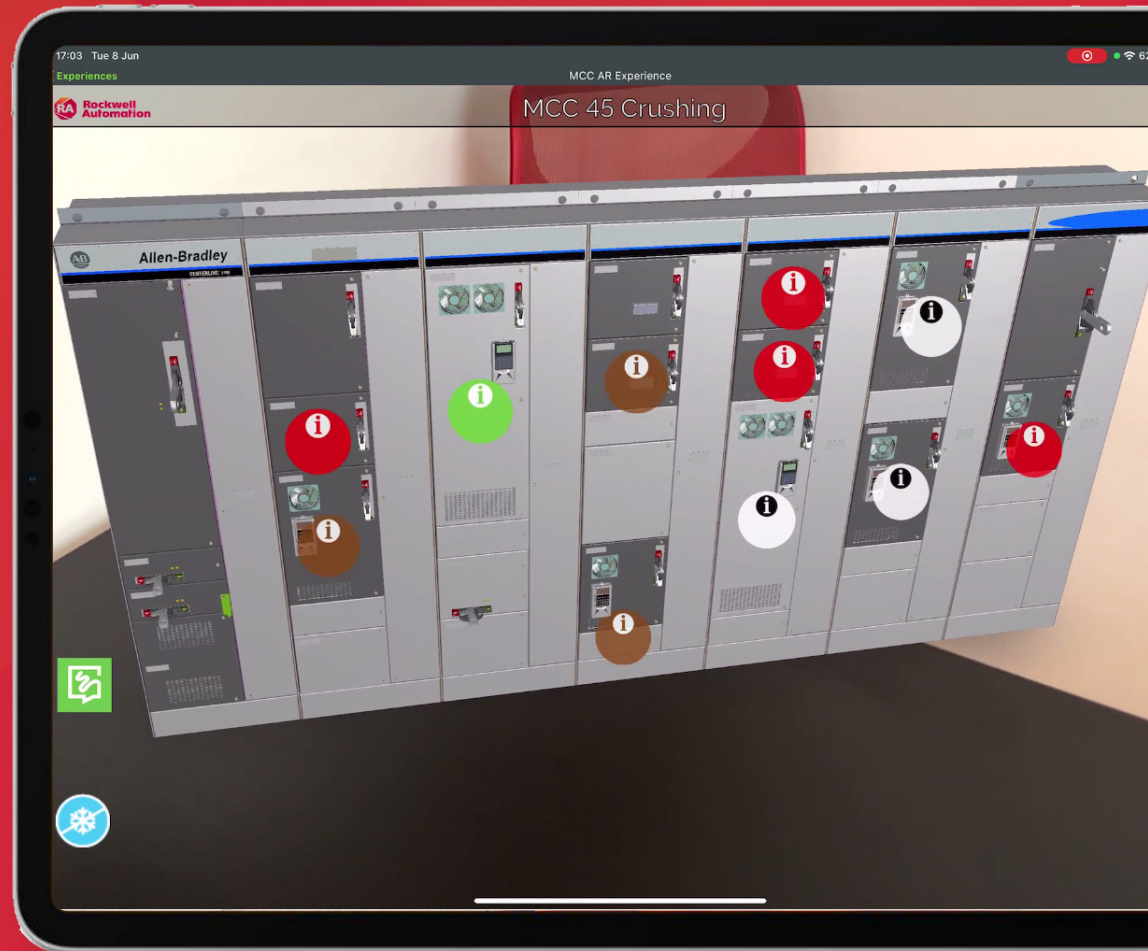
Real time Status, identify failure & get all MCC information

- Augmented reality representation by simply scanning a QR code.

- Full visibility of real time status and key performance indicators (KPIs).

- Access KPI's from MCC's even in restricted areas.

- Dynamic gauges that blink if they require attention, with an easy to distinguish color-coded system.

- Download manuals.
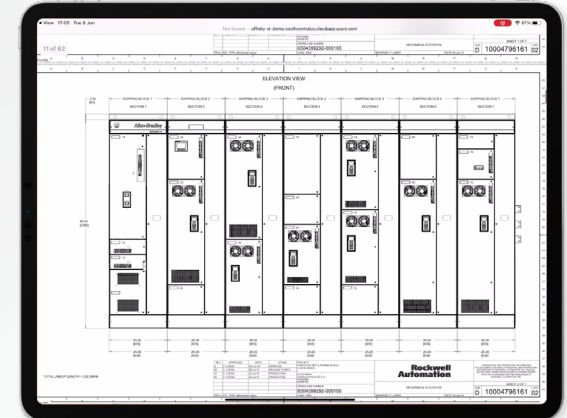
- No limits on the complexity of your MCC's

🟢 **Running**   🟤 **Thermal Overload**

🔴 **Fault/Failure**   ⚪ **Off**
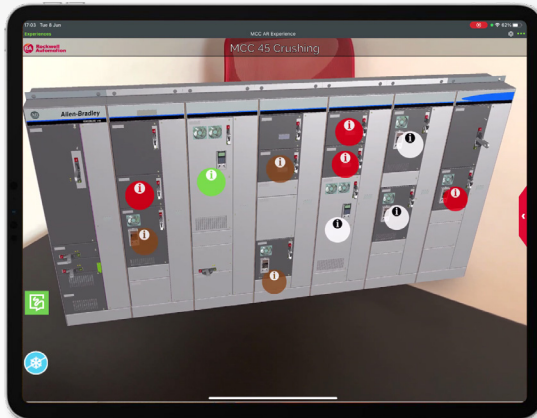
AR representation
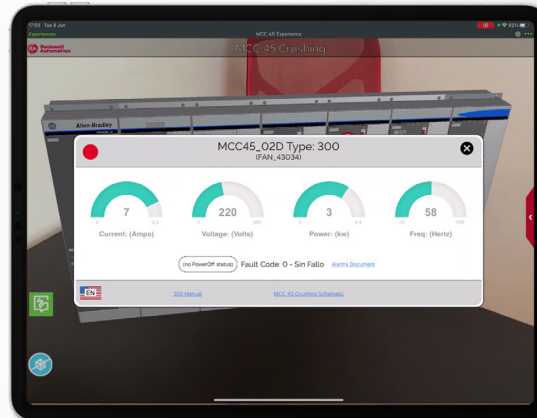
Current, Voltage, Power and Freq.

Downloaded manual

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Maximize Workforce Productivity

Traditional methods of empowerment like paper documentation, training classes, over-the-shoulder mentoring, and face-to-face troubleshooting are no longer viable.

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AR brings **digital technology** to the front line

Companies can no longer rely on the memory and skill retention of their operators and technicians to handle the increasing necessity to quickly adapt to complexity and variation of products and production lines.

Fortunately, AR fundamentally changes the way we can communicate information and knowledge. AR delivers new capabilities to improve productivity, agility and safety.

It allows us to present 3D digital models, visually augment work instructions, and expose relevant insights, such as from sensors or other digital sources. With AR, this content can be presented directly in the frontline workers field of view, relative to important context they see in the physical world where they're working.

Use augmented maintenance procedures to give your workforce confidence.

Rockwell Automation

The right information improves productivity, agility and stability

AMS changes everything – it improves productivity, increases quality and ensures safety & compliance. And most importantly, all of that unlocks value for you and your team.

Increased safety

Easy knowledge capture

Easy remote collaboration

Clear, accurate work instructions

Faster documentation of SOPs

Highly effective training methods

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Improve Safety and Compliance

Arc Flash incidences are unpredictable. While there are methods in place to prevent them from occurring, companies need to be prepared for the 'what if' scenario.

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Make **unseen danger** visible, warn users of the **danger zone**

AMS CAN IMPROVE SAFETY AND COMPLIANCE BY SHOWING ARC FLASH BOUNDRIES.

TYPICAL SAFETY MEASURES

Solution:

Safety zones are painted on the floor

Result:

Standard painted distance barriers are often ignored

AMS SAFETY MEASURES

Solution:

Because Arc Flash is dynamic, the distance needs to vary

Result:

A barrier that dynamically adjusts according to the conditions

⚠ **THE VIRTUAL SAFETY BARRIER CAN HELP PREVENT THE RISK OF BEING EXPOSED TO THE ARCH FLASH BLAST ZONE, POTENTIALLY SAVING LIVES**

Rockwell Automation

A **value-driven** implementation approach

Discover
- Discover use cases
- Quantify business value

Design
- Prototype
- Build
- Test

Deliver
- Identify immediate hurdles
- Prioritize investments

RESULTS ACHEIVED

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