FREEDOM ⚡ ROBOTICS

ROBOTS IN MANUFACTURING: A PRAGMATIC APPROACH

The truth about robots in manufacturing?

ROI isn't guaranteed. Here's how to fix it.

EXCLUSIVE OFFER
FOR MANUFACTURING.NET READERS
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A SOBERING TRUTH ABOUT ROBOTICS IN MANUFACTURING

The true purpose of automation is to provide a Return on Investment (ROI). However, we often see industrial manufacturers make a massive push to deploy robots on their factory floors in a manner that almost guarantees an absence of ROI.

At Freedom Robotics, we've worked with thousands of robots, overseen hundreds of deployments, and have witnessed countless successful legacy technology integrations. In each case, our goal was to automate tasks that deliver measurable value to our customers.

Based on our experience within the walls of some of the most modern industrial manufacturing facilities in the United States, less than 10 percent of conveyance tasks are easily automated with robots. It gets worse. Before our arrival, approximately 80 percent of robot projects we've seen have been

over-budget by more than double and took six months to a year longer than expected to deploy.

The robot revolution has simply not occurred. The future hasn't arrived. Robots are not living up to their promise.

The result? Manufacturers leave billions of dollars in cost savings on the table. It doesn't have to be this way.

We've identified **three major challenges** that act as roadblocks to successful robotic deployment on the floors of industrial automation facilities -- and the solution for each of them.

CHALLENGE #1:
INTEGRATION IS DIFFICULT

Integration is difficult. There are numerous moving pieces and few widely adopted standards capable of fully tying factory automation together.

In a simple setting, robots perform the tasks they are instructed to execute. But the systems they are meant to integrate with — 15-year-old Programmable Logic Controllers (PLCs) — increase the complexity of the work.

The result is longer than expected ramp-up phases and over-reliance on outside Systems Integrators (SIs) who take tribal knowledge of your systems with them as soon as they exit the building.

This, in particular, will also blow up your budget. Why? Because you've likely contracted an SI for help with the deployment and consider the engagement a one-time expense. Production lines are dynamic entities that require constant restructuring, optimization, and "on-the-fly" adjustments.

They are not one-time expenses.

VISIBILITY

Suppose an industrial manufacturer employed a system that delivered visibility into both the robot and the components with which it interacts. It could keep end goals in sight with full transparency every step of the way. It's time to turn on the flashlight.

The right fleet management system supplies a series of dashboards that deliver visibility into any robot at any time. With the proverbial flashlight turned on, operators can pinpoint issues that cause delays on production lines and better manage them moving forward.

Choosing a unifying fleet management software system ensures you can manage robots alongside existing automation technology in your facility. Ideally, you can manage them all via a single pane of glass.

ROBOTS REQUIRE EXTENSIVE HAND-HOLDING

Automation of even the simplest task often requires one full-time technician to manage approximately ten robots. The technician needs to keep a close eye on the monitoring system to ensure there are no errors. Unfortunately, ensuring there are no errors is a goal that is completely and utterly impossible to accomplish.

Why? Because robot batteries die at random. They get stuck due to obstructions. They get lost. In other words, errors will invariably occur.

When they do, technicians need to respond ASAP. But the solution isn't always easy to come by because it's not always clear which devices are involved, the level of urgency, or the root cause.

It simply shouldn't be this difficult to manage and maintain robots.

SMARTER ALERT SYSTEMS

Suppose an industrial manufacturer utilized a robotic fleet management system capable of delivering detailed alerts that answer those open questions and deliver them via convenient channels. It's time to deliver actionable intelligence to those who solve problems.

The right fleet management system delivers real-time smart alert notifications when faulty conditions arise on factory floors. Operators are able to identify the following quickly and easily:

- Which robot had an issue
- When the alert was triggered
- What went wrong and needs fixing
- Where the operator needs to go to fix the problem

Operators in charge of guaranteeing up-time bear a huge responsibility. Real-time alerts — ones that can be transmitted via text or email and directly integrate with services such as PagerDuty, Slack, IFTTT, etc. — make that job easier.
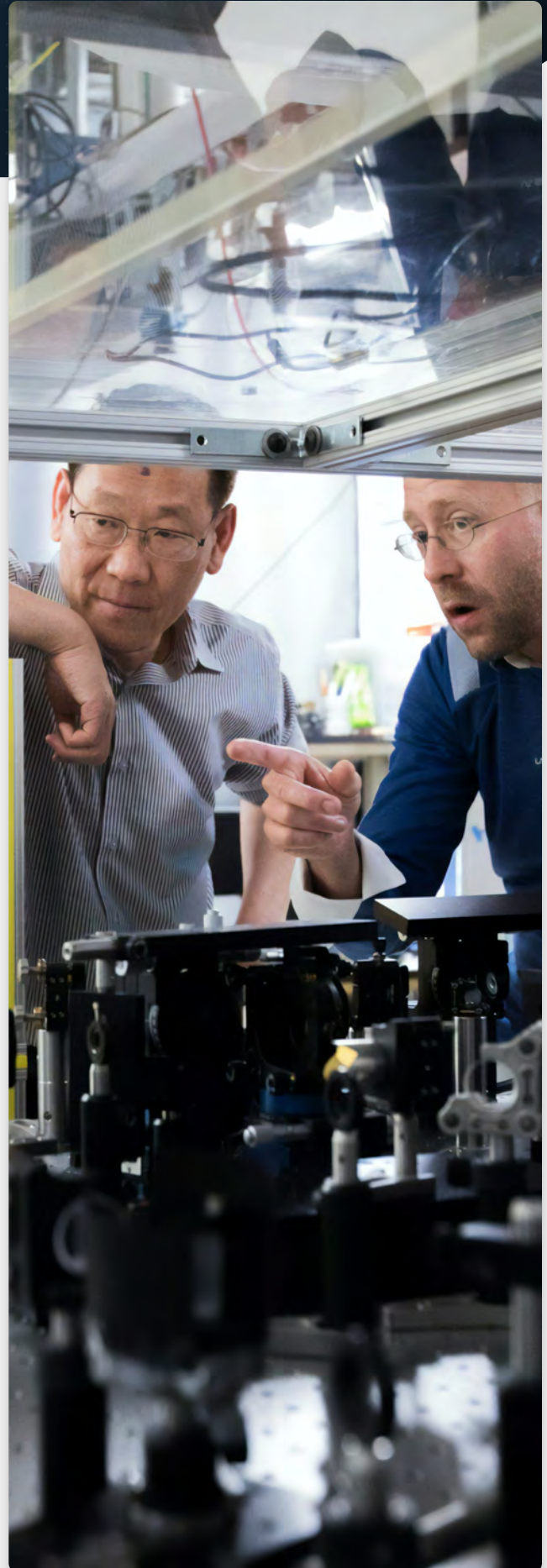
ROI IS DIFFICULT TO QUANTIFY

Let us for a moment consider a simple task performed daily within the walls of any modern automobile manufacturing facility: gasket delivery.

A straightforward delivery loop, a robot that performs this task has no issue transporting the gaskets from Point A to Point B. However, it does take a human to unload the gaskets and attach a new cart to the robot so it can drive back to Point A for another pickup.

As Peter Drucker proclaimed, "what gets measured gets managed." With this in mind, it makes sense that simple statistics such as average idle time between gasket deliveries rarely get measured or are given any serious thought or consideration.

Where measurement processes do exist, they are unique to individual vendors, making it impossible to answer questions from management such as, 'what's the average idle time on all those manufacturing robots we bought?' or 'are Brand X's robots performing as promised?"

SMART DATA AND MEASUREMENT

Suppose an industrial manufacturer implements intuitive and transparent dashboards capable of generating standardized reports that identify low hanging fruit and offer critical insight into specific manufacturing processes that can be optimized. It's time to turn big data into smart data.

The right fleet management platform provides operators the ability to drill deep into individual robots' performance history. Such data can be collated into standardized reports that help identify poor performance patterns.

The right platform also easily visualizes alerts from robots experiencing errors. Over time, when patterns start to emerge from error clusters, it becomes easier to draw educated conclusions and implement meaningful solutions.

3 SOBERING TRUTHS ABOUT ROBOTS IN MANUFACTURING

CHALLENGES
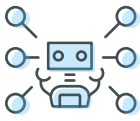
INTEGRATION IS DIFFICULT

Few standards exist, making the issue hard to solve

ROBOTS REQUIRE HAND-HOLDING

Automating even the simplest task still requires humans

ROI IS DIFFICULT TO PROVE

What gets measured is ultimately what gets managed
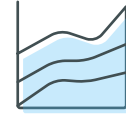
SOLUTIONS

COMPREHENSIVE VISIBILITY
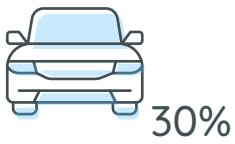
Transparency for project management and goal monitoring

SMARTER ALERT SYSTEMS

Actionable intelligence for those who solve problems

SMART DATA AND MEASUREMENT

Instantly turn your "big data" into "smart data"

30% The biggest customers of industrial robots are **the automotive industry** with 30% market share, **the electrical/electronics industry** with 25%, **the metal and machinery industry** with 10%, **the rubber and plastics industry** with 5%, **the food industry** with 5%.

— **International Federation of Robotics | 2019**
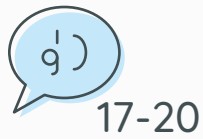
17-20

Active robots use an estimated 17-20 proprietary languages

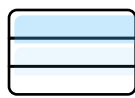— **MIT Report on Industrial Automation**

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Integration accounts for 4-5 times the cost of the actual robot
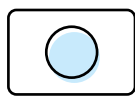
— **MIT Report on Industrial Automation**

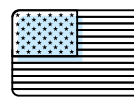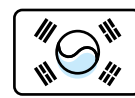---

The Five Major Markets for Industrial Robots

CHINA   **GERMANY**   **JAPAN**   **USA**   **KOREA**

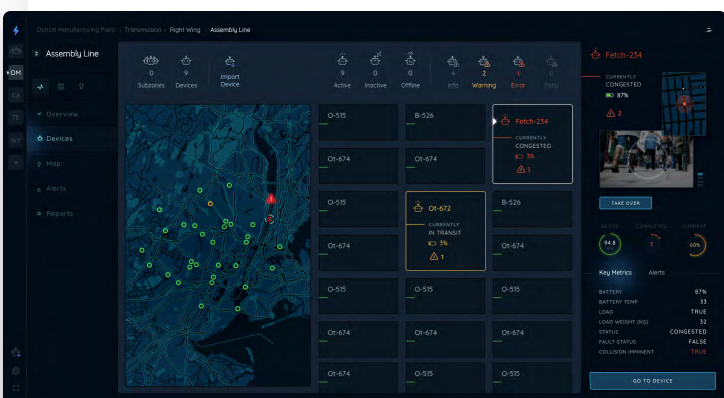— **International Federation of Robotics | 2019**

By 2022 **42% of total task hours** will be completed by machines

— **World Economic Forum | 2018**

**57% of employers** want to use automation to improve performance and productivity

— **WLTW | 2018**

FREEDOM ⚡ ROBOTICS

An end-to-end solution that operates through a "single pane of glass," the Freedom Robotics Fleet Management Platform deploys, manages and optimizes the performance and efficiency of the production and material handling workflows carried out in your facility by existing AMR, AGV, and automation technologies.

Learn how to accelerate the return on your robotics and automation technology investments with Freedom Robotics.

NEXT STEPS
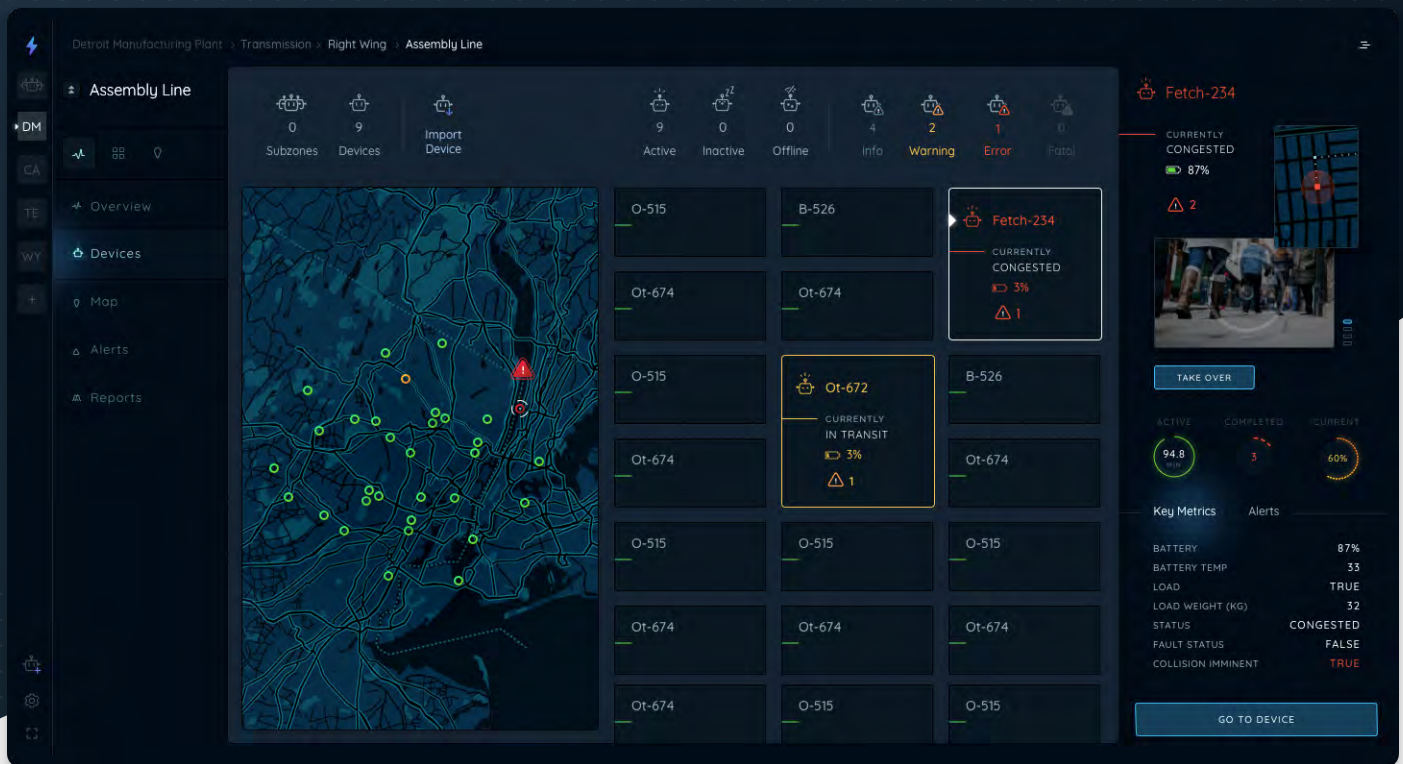
As a special thanks to Manufacturing.net readers, we are pleased to offer you an exclusive opportunity to speak with our Executive of Robotic Automation Solutions.

No obligations. No strings attached. No hidden surprises. We want only to help you make the most of your robotic automation investment.

Whether you are at the start of your robotic automation journey or years into a successful technology deployment, the Freedom Robotics team can help ensure you are positioned for success.

BOOK YOUR CALL TODAY