

**Autonomous Guided Vehicle (AGV)**  
**Preventative Maintenance Offering**



**Outsource** Maintenance | **Maximize** Uptime | **Preserve** Investment

[www.eckhartusa.com/agv](http://www.eckhartusa.com/agv)

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## Eckhart Provided Preventative Maintenance

Autocraft Autonomous Guided Vehicles (AGVs) are engineered and manufactured for demanding industrial applications. We're proud to achieve four sigma uptime when diligent preventative maintenance is performed. The realities of today's resource-constrained manufacturing facilities are such that preventative maintenance often falls by the wayside, which is why we're here to help.

The Eckhart **Preventative Maintenance Offering** (PMO) is a service designed to maximize your automation uptime at the lowest total lifetime cost.



## Preventative Maintenance Activities We Perform

- Drivetrain and chassis cleaning: clean AGV drive axles, steering packages, and undercarriages of dirt and debris collected from plant floor
- Test batteries: complete charge analysis to provide potential replacement timing; schedule desulfation as needed to extend battery life
- Inspect and test all electrical, pneumatics, and controls elements of charging station; verify all components work as programmed
- Calibrate steering and drive motors that can become misaligned if AGV is damaged by other equipment or product
- Inspect, test, and clean safety scanners, camera sensors, and magnetic tape sensors for settings, scratches, or damage that could affect performance
- Replace magnetic tape, colored tape, and/or RFID pucks that may have become damaged or worn by plant traffic.
- Inspect companion frames, casters, and tooling for damage or misuse that could materialize into down-time if unaddressed
- Document all activities in system master maintenance record viewable on Eckhart's online maintenance portal

## Preventative Maintenance Offering (PMO) Agreement

Eckhart agrees to provide site visits at the “Address of Installed Equipment” according to the “Site Visit Schedule” and for the duration of the “Service Contract Period”. The “Activities Performed” on the “Equipment List” are subject to the “Conditions” below. Customer is responsible for any non-scheduled service or emergency calls and will be charged according to Eckhart’s standard service rates.

### Terms

**Customer:**

**Address of Installed Equipment:**

**Service Contract Period:**

**Eckhart Quote No.:**

**Customer Purchase Order No.:**

**Sales Engineer:**

**Equipment List:**

**Cost:**

**Site Visit Schedule:**

**Activities Performed:** See “Preventative Maintenance Activities We Perform” on page 2

### Conditions

1. The customer provides reasonable access to all areas and equipment, and allows Eckhart to stop and start equipment as necessary to fulfill the terms of the Agreement.
2. If the equipment covered is altered, modified, changed or moved this Agreement may be adjusted accordingly or terminated provided by email.
3. In no event, whether as a result of breach of contract, or any tort including negligence or otherwise is Eckhart, employees, or agents liable for any special, consequential, incidental, or penal damage including, but not limited to loss of profit or revenues, loss of use of any products, machinery, equipment, damage to associated equipment, cost of capital, cost of substitute products, facilities, services or replacement power, down time costs, lost profits, or claims of Customer for such damages.
4. Service agreement must be paid in full before any service can be rendered on the Agreement.
5. Spare parts and any components that need to be replaced that are not under warranty are not covered under this agreement.

Customer satisfaction and system uptime is our #1 priority at Eckhart and the Preventive Maintenance Offering is one way we achieve our goal.

**Eckhart Authorizing Signature**

**Customer Authorizing Signature**

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## The Importance of Preventative Maintenance

Businesses that rely on critical equipment to support their manufacturing operations need confidence in its performance, reliability, and longevity. The old adage “if it ain’t broke, don’t fix it” doesn’t work today, as manufacturing leaders are tasked with maintaining rate given ever more complex, just-in-time, and just-in-sequence build requirements. While a **reactive maintenance** approach may save resources in the short-term, the long-term costs eventually add up.

To deliver the best outcomes for their operations and their end-customers, leading manufacturers employ **preventative maintenance**. A well-designed preventative maintenance program consists of inspection, cleaning, and replacement tasks tailored and scheduled to the specific system requirements, usage, and environment. When well-designed and executed, a preventative maintenance program maximizes system performance, minimizes unplanned downtime, and extends the life of equipment.

Many Fortune 500 customers rely on Eckhart’s **Preventative Maintenance Offering (PMO)** for three reasons:

### SIMPLIFY OPERATIONS

The fast pace and constant pressure to solve issues affecting production right now leads to slippage on even carefully planned preventive maintenance. The Eckhart PMO will simplify your operation

- Focus more on production and less on maintenance
- Avoid personnel and talent shortages that threaten your plan



### MAXIMIZE SYSTEM UPTIME

Unplanned work stoppages can cost thousands of dollars per minute, making the preventative maintenance the obvious choice in retrospect.

The Eckhart PMO will help maximize your system uptime:

- Identify, diagnose, and repair issues before they affect production
- Schedule maintenance during breaks or shutdowns



### MINIMIZE TOTAL COST OF OWNERSHIP (TCO)

An initial equipment purchase is the largest, but not the only cost to consider, with spare parts, repairs, and system longevity all affecting the lifetime cost. The Eckhart PMO will minimize your TCO.

- Reduce the number and frequency of spare part purchases
- Increase longevity allowing for extended usage & redeployment

