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Condition-Based Maintenance Implementation and Potential in USMC Ground Transport

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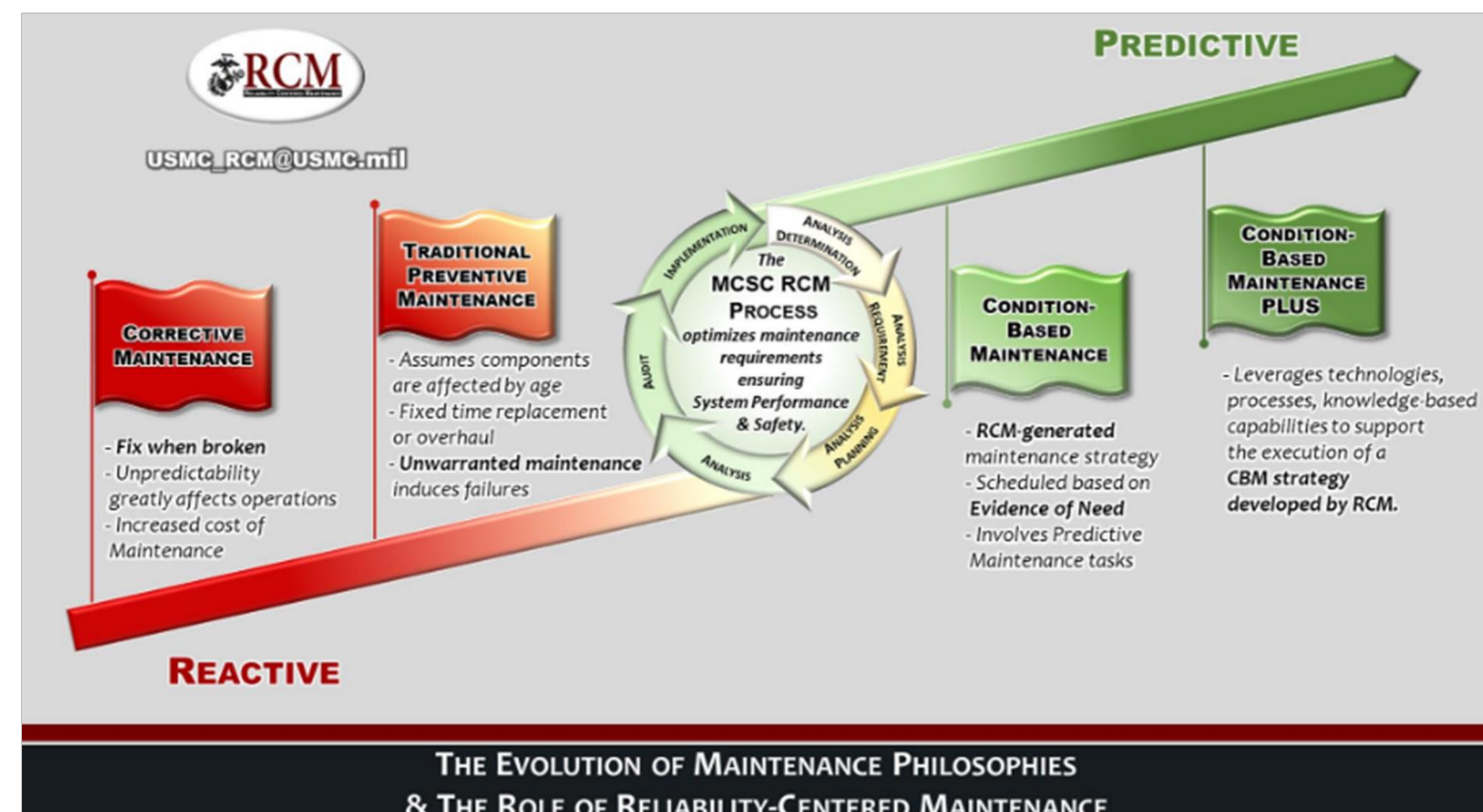
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Background

The Marine Corps is undergoing organizational change efforts to integrate Condition-Based Maintenance Plus (CBM+) as a maintenance strategy to support ground equipment.

Two projects were conducted to help inform the Marine Corps on implementing Condition-Based Maintenance Plus (CBM+) strategy. The first project analyzed case studies on CBM implementation in mining, railroad, and heavy equipment industries.

The second project reviewed key policy documents and conducted interviews with subject matter experts in the Marine Corps. A thematic analysis was conducted using an organizational change approach to identify barriers and opportunities that impact CBM+ implementation. From this analysis, six recommendations were provided to enable effective CBM+ implementation.



Source: MARCORSSCOM

Findings & Analysis

Lessons/Practices from Industry

- The Marine Corps is going to require significant modifications to existing systems or the purchase of additional systems to achieve CBM+ implementation
- User interface must be a primary consideration in acquisition of IT infrastructure
- Select retrofit of sensing technology on only the most critical capabilities enables the service to buy down the risk of high-value assets
- Data and maintenance monitoring structure should be contracted or GS employees due to specialized skills required
- The Prevention-Failure curve is better than remaining useful life for understanding of a piece of equipment's health and facilitating maintenance decisions.

Organizational Change Thematic Analysis

- **Barriers Identified:**
 - CBM+ is not understood throughout the fleet
 - Marine Corps maintenance policies conflict
 - Inspection checklists ignore CBM+
 - Competing priorities consume capacity
- **Opportunities for Change:**
 - Leadership buy-in and advocacy
 - Exceptions to policy enhance CBM+ implementation
 - Reductions to non-value-added maintenance actions
 - Cross-training operators and mechanics

Recommendations

- Based on the findings and analysis, six recommendations were provided to improve CBM+ implementation as a ground maintenance strategy in the Marine Corps:
 - Align CBM+ with Force Design 2030 and Talent Management 2030
 - Establish a CBM+ Guiding Coalition
 - Refine and Communicate CBM+ Vision
 - Resolve Conflicts Between Maintenance Policies
 - Develop CBM+ Education for Commanders
 - Utilize FSMAO to Support CBM+ Integration



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