Informational

National Aeronautics and Space Administration

Don’t Stop Believing (in Your EVM Data) The Power of EVMS

Daniel Goldsmith | August 2026

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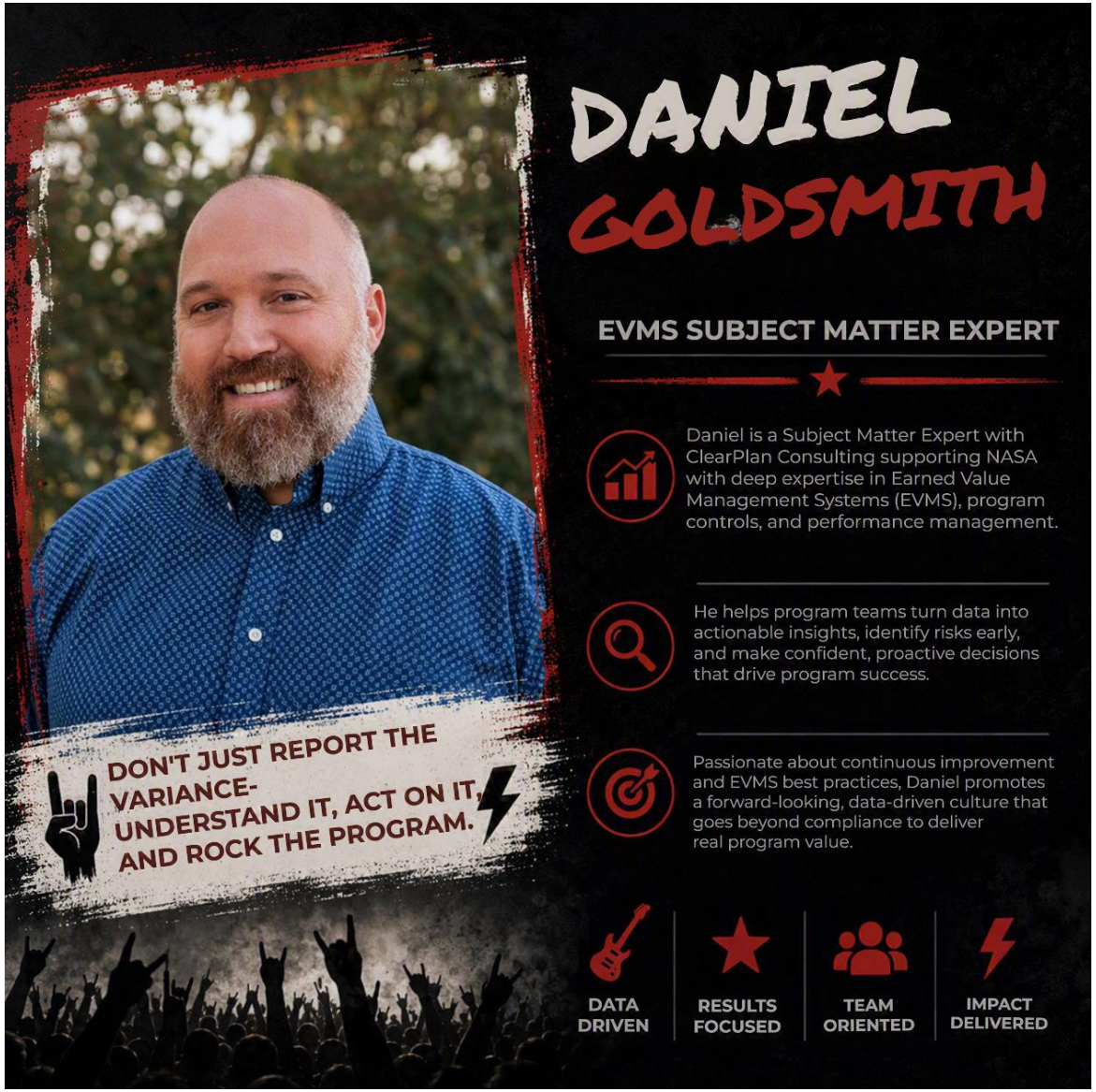
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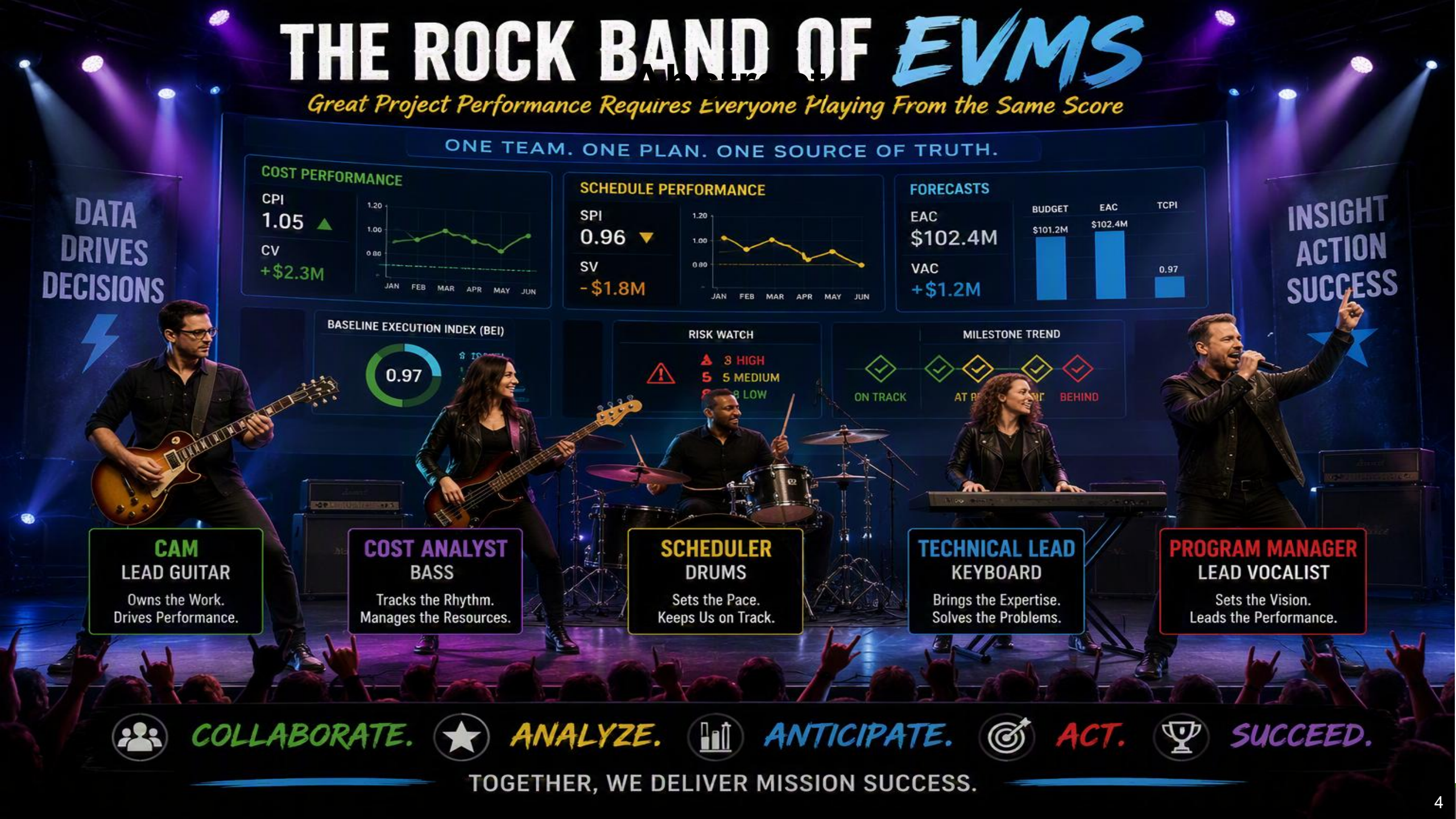
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Presenter


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EVMS SUBJECT MATTER EXPERT
Daniel is a Subject Matter Expert with ClearPlan Consulting supporting NASA with deep expertise in Earned Value Management Systems (EVMS), program controls, and performance management.
He helps program teams turn data into actionable insights, identify risks early, and make confident, proactive decisions that drive program success.
Passionate about continuous improvement and EVMS best practices, Daniel promotes a forward-looking, data-driven culture that goes beyond compliance to deliver real program value.
DON'T JUST REPORT THE VARIANCE-
UNDERSTAND IT, ACT ON IT, AND ROCK THE PROGRAM.
DATA DRIVEN
RESULTS FOCUSED
TEAM ORIENTED
IMPACT DELIVERED

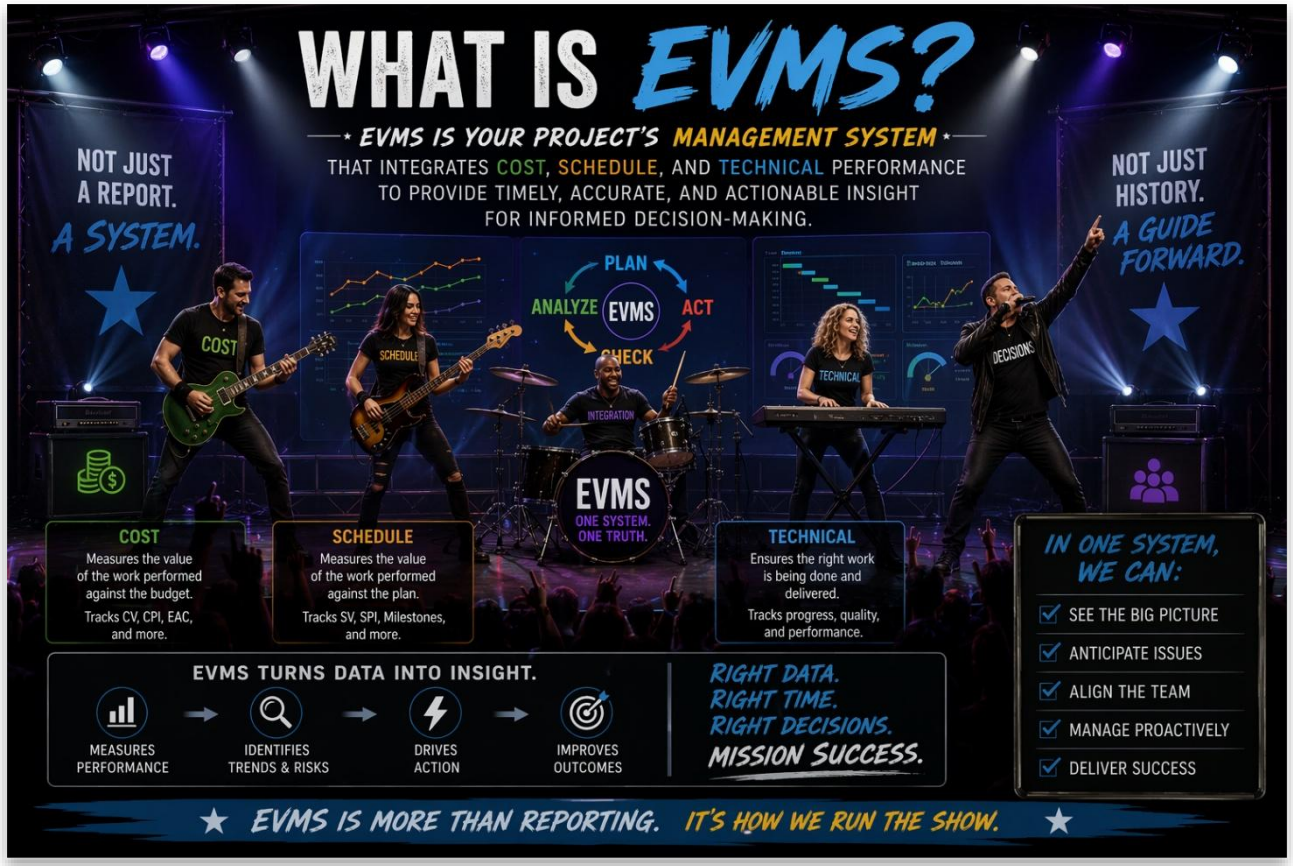

THE ROCK BAND OF EVMS
Great Project Performance Requires Everyone Playing From the Same Score
ONE TEAM. ONE PLAN. ONE SOURCE OF TRUTH.
DATA DRIVES DECISIONS
INSIGHT ACTION SUCCESS
COST PERFORMANCE
CPI
1.05
CV
+$2.3M
SCHEDULE PERFORMANCE
SPI
0.96
SV
- $1.8M
FORECASTS
EAC
$102.4M
VAC
+$1.2M
BUDGET
EAC
TCPI
$101.2M
$102.4M
0.97
JAN FEB MAR APR MAY JUN
BASELINE EXECUTION INDEX (BEI)
0.97
RISK WATCH
3 HIGH
5 MEDIUM
LOW
MILESTONE TREND
ON TRACK
BEHIND
CAM
LEAD GUITAR
Owns the Work.
Drives Performance.
COST ANALYST
BASS
Tracks the Rhythm.
Manages the Resources.
SCHEDULER
DRUMS
Sets the Pace.
Keeps Us on Track.
TECHNICAL LEAD
KEYBOARD
Brings the Expertise.
Solves the Problems.
PROGRAM MANAGER
LEAD VOCALIST
Sets the Vision.
Leads the Performance.
COLLABORATE. ANALYZE. ANTICIPATE. ACT. SUCCEED.
TOGETHER, WE DELIVER MISSION SUCCESS.

EVMS

What is it?

EVMS is a structured way to measure project progress by comparing what you planned, what you actually did, and what it actually cost.

- How much work did we plan to complete by now?
- How much work did we actually complete?
- How much did that completed work actually cost?

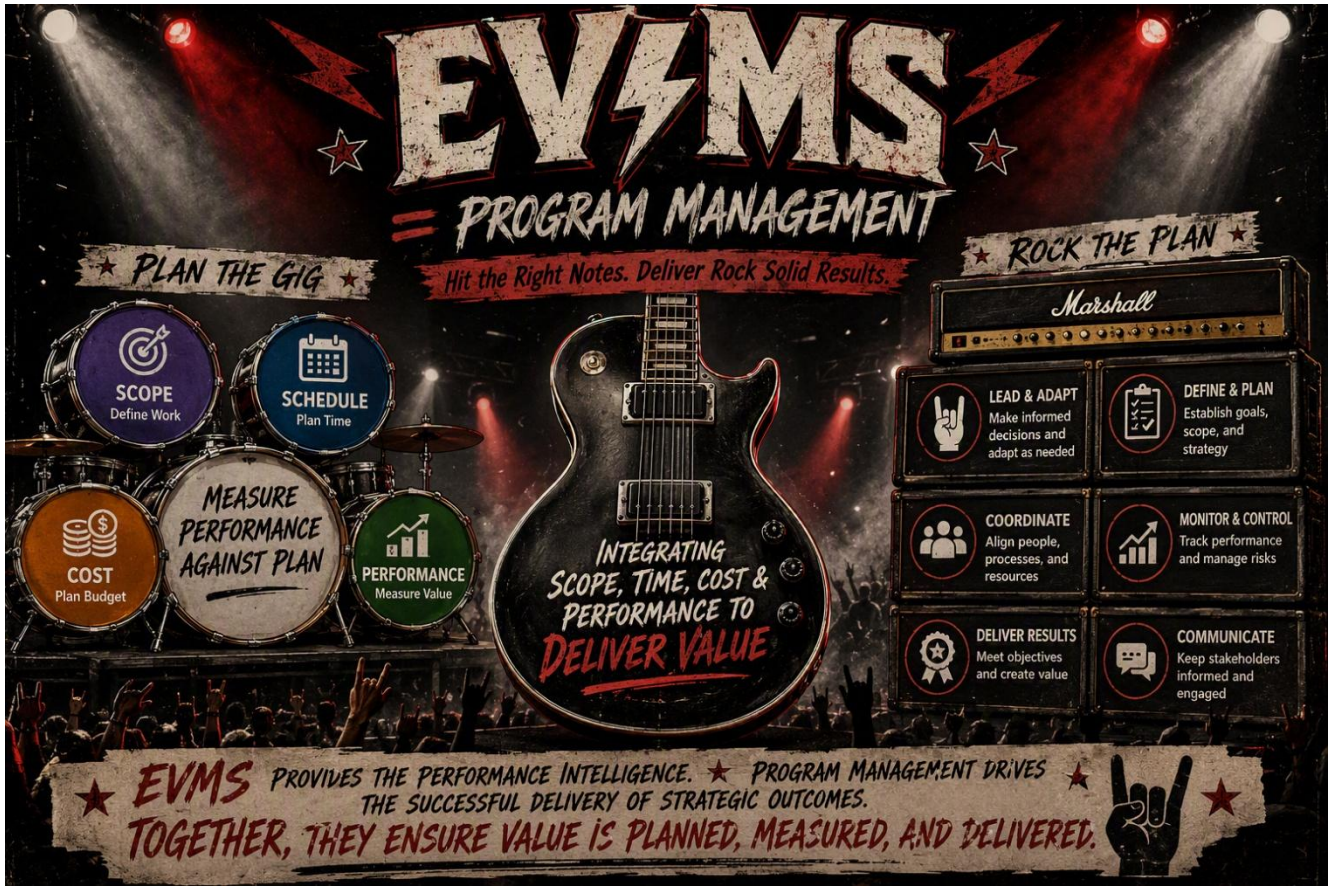


EVMS integrates cost, schedule, and scope into a single objective view of project health.

Misperception

EVMS is too hard!

- EVMS is often seen only as a compliance checkbox
- It's often seen as a reporting tool only
- A government-required burden that adds no value
- 'It's a finance thing'
- **When in reality**
- If you are maintaining your EVMS…
  - You are utilizing integrated program management
  - Reports are easy to produce — the data is already there, reliable and accurate
  - Allows you to make informed forward-looking decisions
  - A source of valid, timely, accurate, and auditable data
  - Is used by the entire program



EVMS

Reactive vs Proactive

Reactive EVMS	Proactive EVMS
Explains what already went wrong (lack of trending)	Anticipates what may go wrong
Relies on lagging metrics	Leverages leading indicators
Data is viewed as a compliance exercise	Data drives real-time decisions
Reports what already happened	Identifies performance trends early
Corrective action only after escalation	Identification and Corrective action before issues need to be escalated

Being Proactive

Forward Looking EVMS

1. Continuous Analysis	Robust processes for ongoing data review - not just monthly cycles.
2. Cross-Functional Collaboration	Cost, schedule, and technical teams working from one shared picture.
3. Leading Indicators	Predictive metrics that signal trouble before it materializes.



The earlier you see a trend, the cheaper and easier it is to correct.

Continuous Data Analysis

Forward Looking EVMS

- Move beyond just the monthly reporting drumbeat
- Establish routine cadence for data review
- Ensure valid, timely, accurate, and auditable data
- Spot emerging trends across multiple reporting periods
- Automate dashboards to surface anomalies quickly
- Standardize analysis methods for consistency and repeatability



Cross-Functional Collaboration

Forward Looking EVMS

- Break down silos between cost, schedule, and technical teams
  - Control Account Managers (CAMs) own and interpret the data
  - Engineers validate technical assumptions behind the numbers
  - Schedulers connect logic and float to cost performance
- Shared ownership creates shared accountability



Leading vs. Lagging Indicators

Forward Looking EVMS

Lagging (Rear-View)	Leading (Predictive)
Final CV / SV at period close	CPI/SPI trend slope over time
Cumulative cost overrun	Staffing vs. plan ramp rates
Completed milestone slips	Baseline Execution Index (BEI)
Reported EAC vs. budget	Risk register burn-down rate
Historical variance reports	Hit/Miss task forecast accuracy



The BEI compares the number of tasks actually completed to the number of tasks planned to be completed at that point.

Early Warning

Thresholds

- Set tiered thresholds that trigger action before crisis
- Tailor thresholds by phase, risk, and account criticality
- Use a clear stoplight model to focus attention
- Set both cost (CPI) and schedule (SPI) alert bands
- Escalate yellow trends before they become red issues
- Review and calibrate thresholds as the program matures



Status	CPI / SPI Range	Response
Green	0.95 - 1.05	Monitor
Yellow	0.90 - 0.94	Analyze & plan
Red	Below 0.90	Immediate action

DON'T JUST REPORT THE VARIANCE – *UNDERSTAND AND ACT ON IT.*

1 ASK "WHY," NOT JUST "WHAT"
Identify the root cause behind the number.

2 ASSESS THE IMPACT
Is this a one-time blip or a persistent trend?

3 DETERMINE THE CORRECTIVE ACTION
What will we change, and by when?

4 ASSIGN OWNERSHIP
Who is accountable for closing the gap?

5 TRACK TO CLOSURE
Verify the action improved performance.

CONTROL ACCOUNT PERFORMANCE

CPI 0.84 ▼
SPI 0.88 ▼
CV -$2.4M -$1.8M



VARIANCE SUMMARY
COST VARIANCE -$2.4M
SCHEDULE VARIANCE -$1.8M

ROOT CAUSE	IMPACT	CORRECTIVE ACTION	OWNER	STATUS
Supplier delay causing material shortages	At risk to miss Key Milestone	Expedite materials and re-sequence work	CAM – John D.	On Track To Close

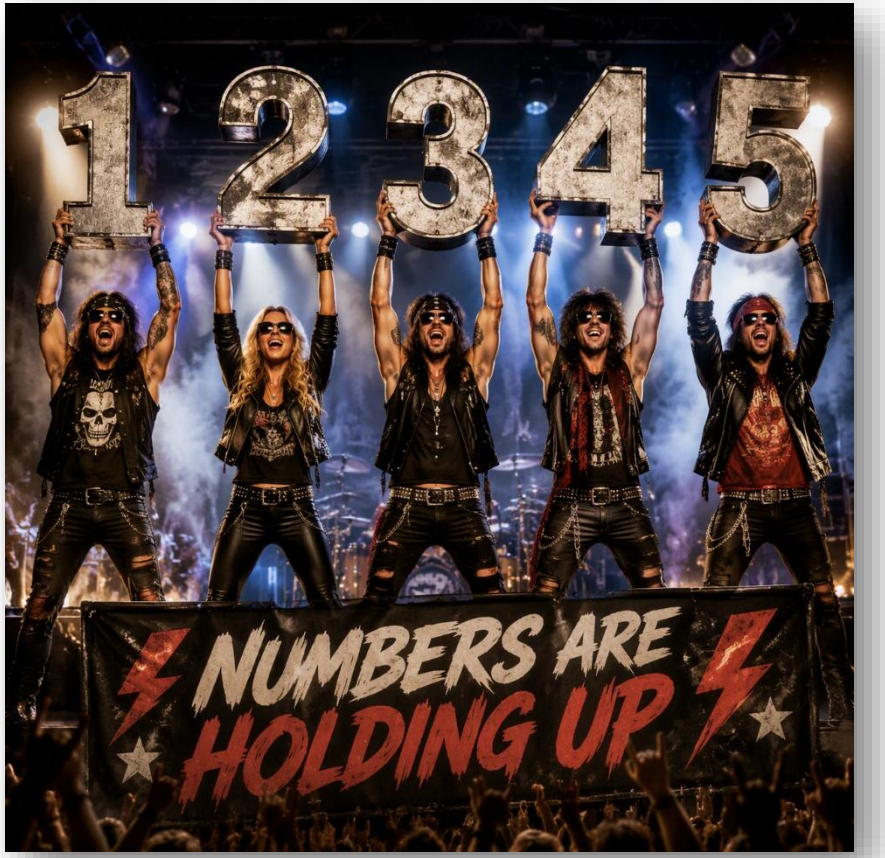


DISCOVER THE TRUTH → UNDERSTAND THE STORY → TAKE ACTION → OWN THE OUTCOME → IMPROVE PERFORMANCE

Benefits

EVMS

- Improved forecasting accuracy and reliable EACs
- Enhanced stakeholder and customer confidence
- Reduced risk of unanticipated cost overruns
- Fewer schedule surprises and recovery scrambles
- Stronger, more defensible audit posture
- Better resource and capital allocation decisions



BUILDING A CULTURE THAT BELIEVES, UNDERSTANDS, AND ACTS ON EVMS DATA

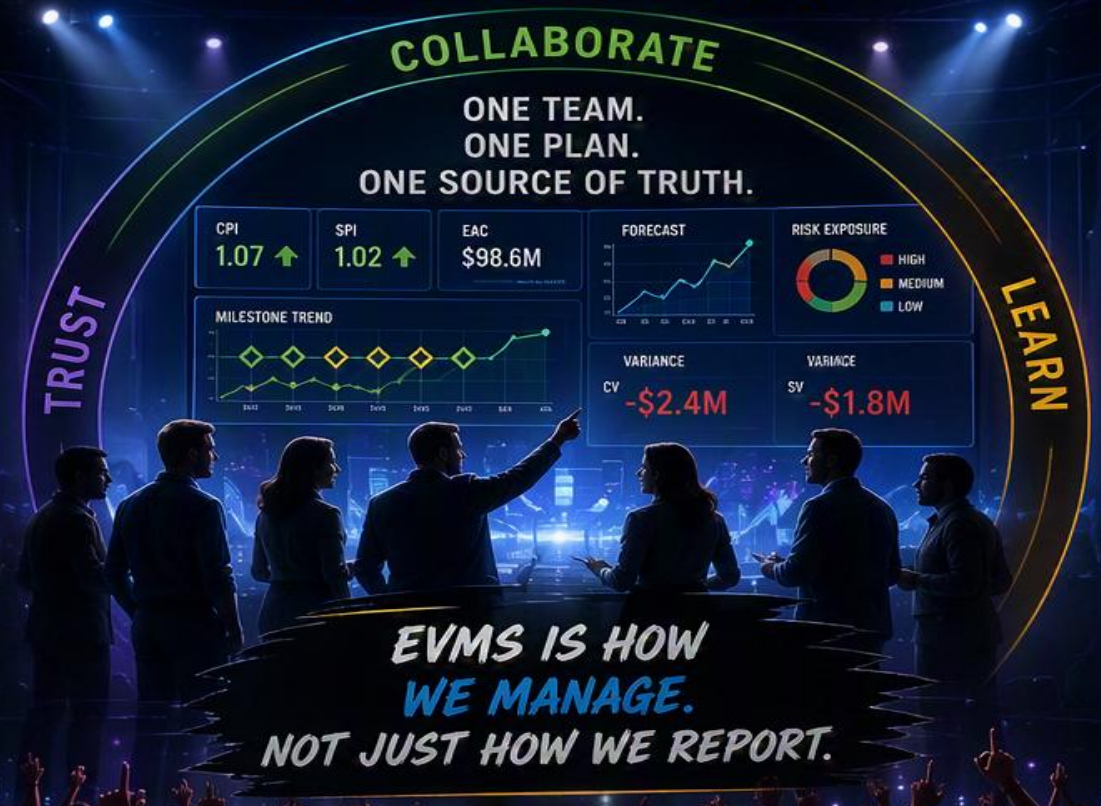
LEADERSHIP MODELS DATA-INFORMED DECISION-MAKING
Leaders use EVMS data to guide decisions and set the tone.

BREAK DOWN SILOS BETWEEN COST, SCHEDULE, AND TECHNICAL TEAMS
Shared goals. Shared data. Stronger outcomes.

EVMS DATA IS TRUSTED, ACCESSIBLE, AND ACTED UPON
Quality data. Open access. Confidence in the numbers.

TRAIN CAMs, SCHEDULERS, AND ANALYSTS TO INTERPRET SIGNALS
Build skills to turn data into insight.

REWARD EARLY FLAGGING, NOT JUST HITTING TARGETS
We celebrate speaking up early to prevent bigger problems.



MAKE EVMS PART OF EVERY PROJECT CONVERSATION
Reference the data. Challenge assumptions. Make better decisions.

LEADERSHIP REINFORCES EVMS AS A MANAGEMENT TOOL, NOT PAPERWORK
It's about managing performance, not generating reports.

TRANSLATE METRICS INTO PLAIN LANGUAGE FOR DECISION-MAKERS
Clear, simple, and relevant to what matters.

CLOSE THE LOOP: SHOW TEAMS HOW THEIR DATA DROVE REAL ACTIONS
Feedback builds trust.
Trust drives behavior.
Behavior drives results.

SEE THE SIGNAL — Data reveals what's happening.

UNDERSTAND — Teams analyze and align.

TAKE ACTION — Corrective actions are implemented.

MEASURE IMPACT — Results are tracked and validated.

IMPROVE TOGETHER — We learn, adapt, and get better.

EVMS FORWARD-LOOKING SUCCESS ROADMAP

BETTER INSIGHT. EARLIER ACTION. MISSION SUCCESS.

1 ASSESS

CURRENT EVMS MATURITY AND DATA QUALITY



- Evaluate processes, tools, and capabilities
- Review data quality and reliability
- Identify gaps and opportunities

2 DEFINE

LEADING INDICATORS RELEVANT TO YOUR PROGRAM



- Focus on predictive measures
- Align with program risks and objectives
- Keep it simple and meaningful

3 ESTABLISH

TIERED EARLY WARNING THRESHOLDS



- Set objective triggers for action
- Define response expectations
- Communicate clearly across the team

4 STAND UP

CROSS-FUNCTIONAL REVIEW CADENCE



- Bring cost, schedule, and technical teams together
- Review data routinely
- Challenge assumptions and share insights

5 EMBED

CORRECTIVE-ACTION TRACKING TO CLOSURE



- Assign ownership
- Track actions and due dates
- Verify effectiveness and adjust as needed

6 REINFORCE

A CULTURE OF PROACTIVE, DATA-DRIVEN ACTION



- Reward early flagging and smart decisions
- Learn and improve continuously
- Make EVMS integral to how we operate

SEE THE BIG PICTURE → Understand where we are.

ANTICIPATE → See what's coming next.

ACT EARLY → Address risks before they escalate.

ALIGN & EXECUTE → Work together with one shared plan.

DELIVER RESULTS → Track, learn, and improve.

ACHIEVE SUCCESS — Better decisions. Better outcomes.

Tangible Benefits

The Payoff

Improved Forecasting

More accurate predictions of final cost and schedule

Stakeholder Confidence

No surprises - trust built on transparency

Reduced Overruns

Problems caught and corrected early, cheaply

Fewer Delays

Schedule risks addressed before they cascade

Better Decisions

Real-time, data-driven action at every level

Maximized ROI

Full value from your EVMS investment

Actionable Strategies & Key Takeaways

EVMS

- Shift focus from lagging metrics to leading indicators
- Establish continuous analysis with a defined cadence
- Set early warning thresholds that trigger action
- Conduct root-cause variance analysis with owned actions
- Break down cost, schedule, and technical silos
- Ground forecasts in performance data
- Build a culture where data drives real-time decisions



Stop looking in the rear-view mirror. Start driving with the road ahead in view.



Thank You

Don’t stop believing in your EVM data.



Questions?

Together, we deliver mission success.