

# **EVM System Certification**

## **The EVM Maturity Model<sup>®</sup> (EVM<sup>3</sup><sup>®</sup>)**

**Ray W. Stratton**

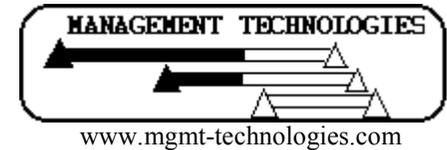
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**Software Technology Conference 2002**

**Salt Lake City**

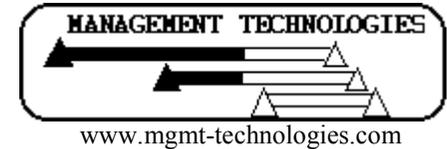
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# Today's Foggy EVM Environment



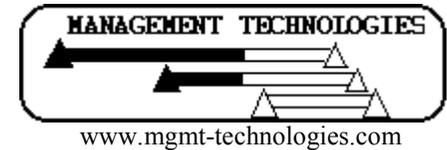
- **“I wish we knew if any of this EVM data is worth looking at.”**
- **“They were certified in 1994, they should still be good.”**
- **“They used to have a certified EVM System.”**
- **“Why is EVM costing us so much, I thought it was to help control costs?”**
- **“We certified company A and company B, now they are one. I guess its still good data.”**
- **“Can't we know which potential teammate can get us timely, correct data?”**

# Standards Define WHAT To Do



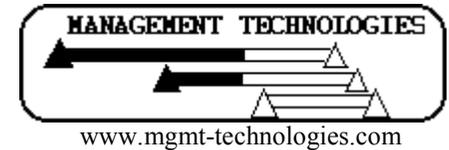
- **EIA/ANSI 748-98 , May 1998, “Earned Value Management Systems”**
  - **An international standard defining attributes of an Earned Value Management System**
  - **Users**
    - **Industry**
    - **Government**
    - **Worldwide Acceptance**

# Maturity Models Help Improve Quality



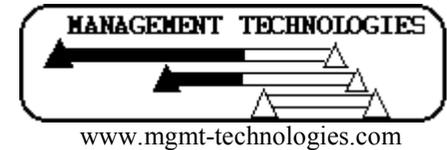
- 
- **Priority of efforts sorted by levels of difficulty**
  - **Roadmap for improving processes**
  - **Tools to evaluate current processes and prioritize improvement efforts**
  - **Means to compare implementations side-by-side**

# What Does QUALITY Mean for Earned Value?

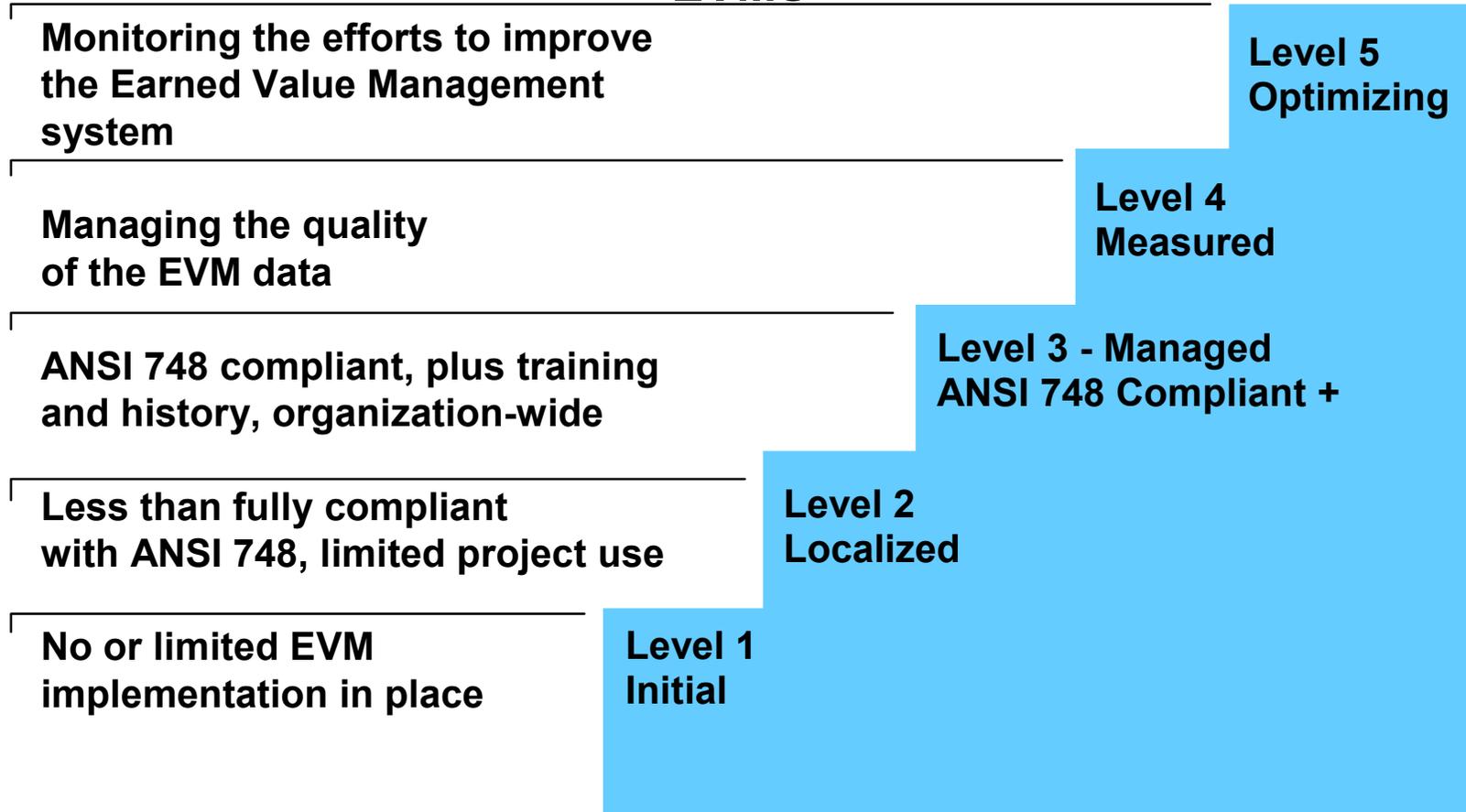


- **Accurate Data**
- **Timely Data**
- **Economical Implementation**
- **Economical Operation**
- **Continuously Improving**

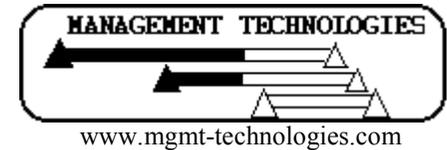
# The Earned Value Management Maturity Model®



## Levels provide foundations for continuous improvement of EVMS

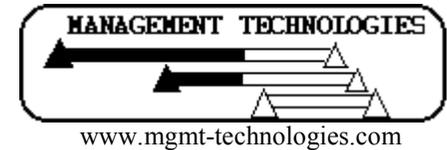


# Attributes of Level 1 - INITIAL



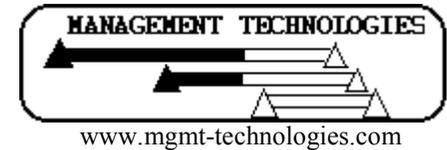
- **No or limited EVM implementation in place**
- **A defined starting point for an initial implementation**
- **Level 1 - Characteristics & Processes**
  - **There are no expectations at this level**
  - **Some individuals may try Earned Value**
  - **Management does not encourage its use**
  - **Lack of project planning may preclude meaningful use of Earned Value**

# Level 1 Characteristics



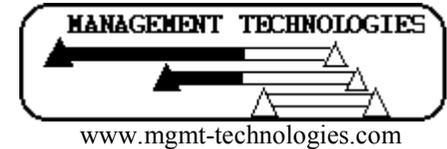
- **Earned Value Management is applied by zealots**
- **Pockets of Earned Value Management deep with projects**
- **No project wide roll-up**
- **Cost and schedule variance discussed in traditional non-Earned Value terms**
- **Management is unfamiliar or unsupportive of Earned Value**

## **Attributes of Level 2 - LOCALIZED**



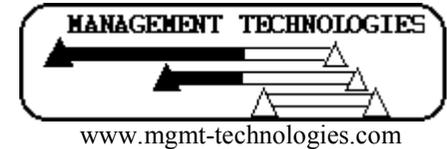
- **Simplified EVM implementation**
- **May be sufficient for smaller projects**
- **Consistent with a modest investment in EVMS**
- **Earned Value data is used in reporting and decision making**
- **Limited investment (use of spreadsheets vs. commercial tools)**
- **Selected projects and management staff are trained on Earned Value principles**
- **Finance and Earned Value systems are not integrated**

# Level 2 Characteristics



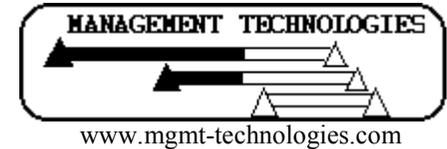
- **Use of a WBS, time phased budget, and responsibility**
- **Plan and schedule the project**
- **Budget cost accounts to functions or products**
- **Maintain a baseline (i.e., control changes)**
- **Monitor the project, forecast outcome**
- **Review variances from plan**
- **Budget and schedule are consistent, top to bottom**

# Attributes of Level 3 – Managed ANSI 748 COMPLIANT+



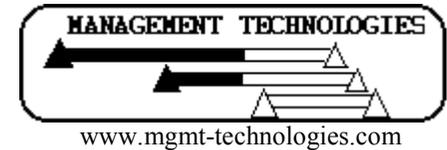
- **EVMS is applied uniformly throughout the organization via a “Systems Description” or similar document**
- **Organizational policy (tailorable System Description)**
- **Standardization of Earned Value Management tools**
- **Plus..**
  - **Funded EVMS training program**
  - **Earned Value Process Group (EVPG)**
  - **EVMS organization repository (Process Library)**

# Level 3 Characteristics



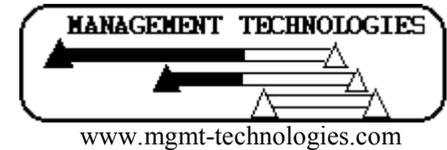
- **Meets all ANSI/EIA 748 Guidelines.....**
- **A “Systems Description” or similar document sets policy, integrates finance and project management, provides consistency project to project**
- **Management and project teams are trained**
- **EVPG assists in tailoring System Description to project needs, keeper of the “System Description”**
- **EVPG maintains an Earned Value Library**
  - **Templates**
  - **Lessons learned**

# Attributes of Level 4 - MEASURED



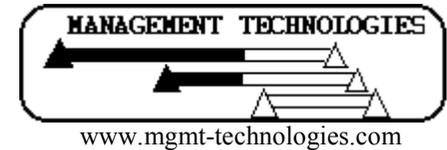
- **Measures the quality of EVM data**
- **Introduces metrics for measuring EVMS health**
- **Adjusts earned value data per a technical baseline to provide a technical variance**

# Level 4 Characteristics



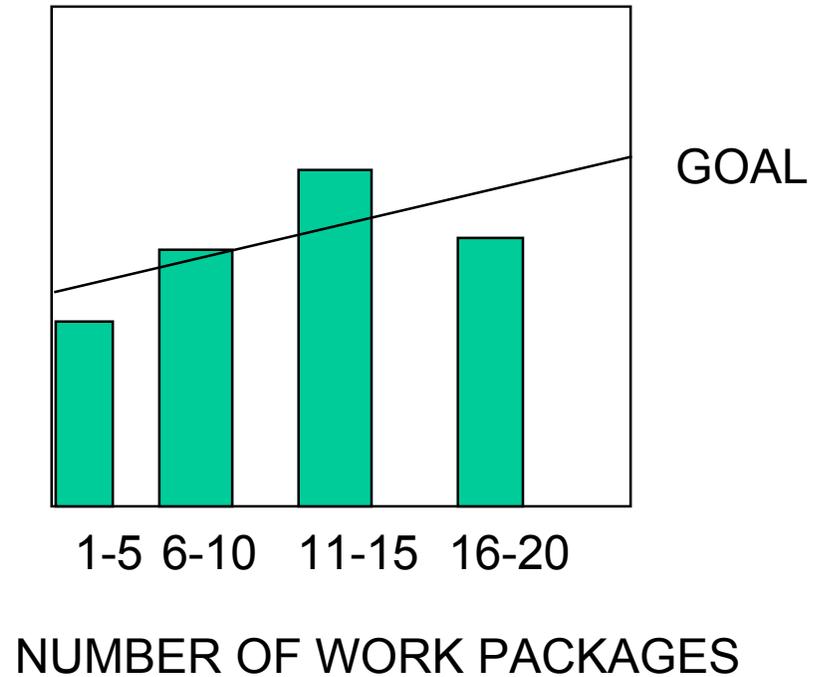
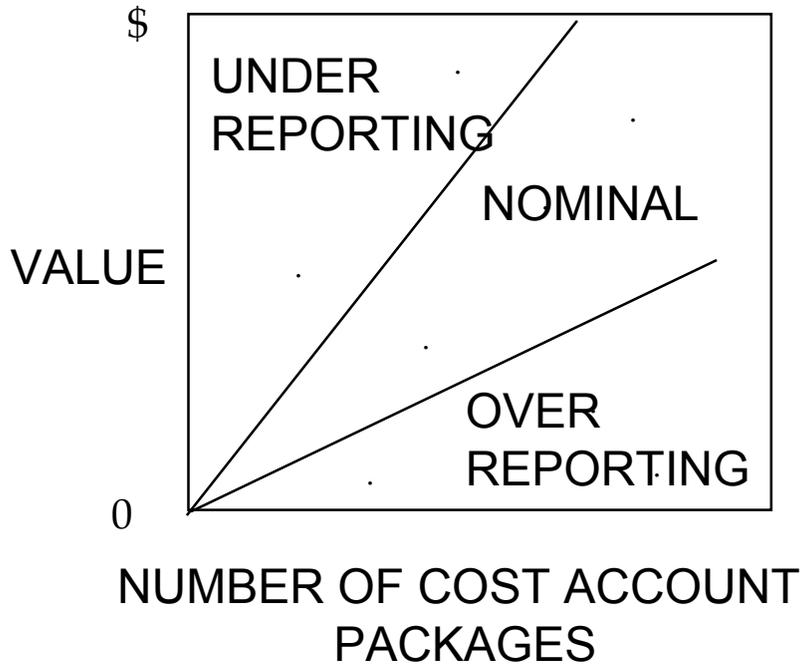
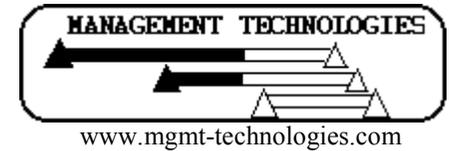
- **Organization has EVMS process metrics**
- **Data on EVMS is collected periodically**
- **Trends are monitored**
- **Management is advised periodically**
  - **positive and negative trends**
  - **cost of EVMS**
  - **data accuracy**
  - **data latency**
  - **accuracy of EVMS projections**
- **EVMS Improvement Plans are developed by EVPG**

# Notional EVMS Process Metrics



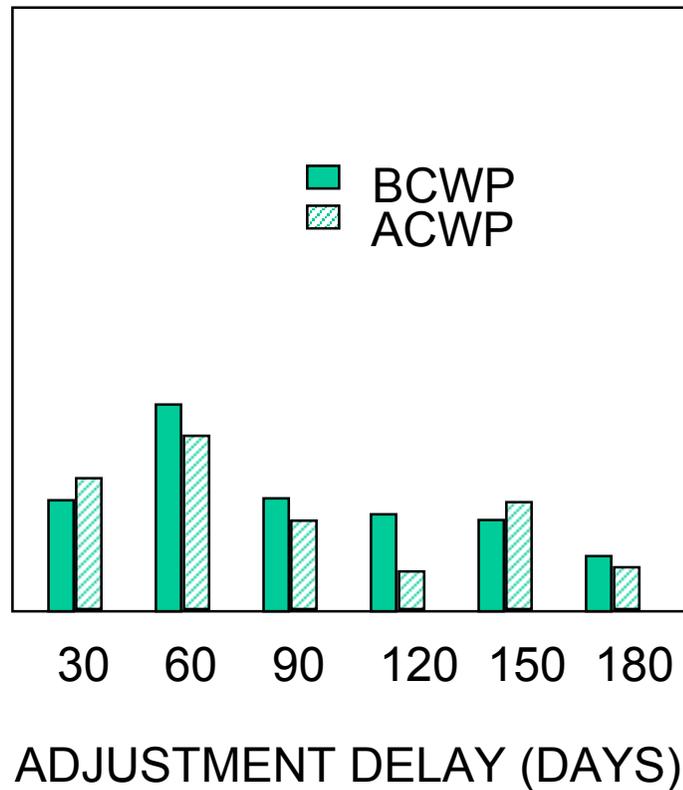
- **Consistency (value of work packages)**
- **Complexity (WBS fan-out)**
- **Workload (work packages per CAM, manager, etc.)**
- **Data latency (days from accounting to reporting)**
- **Baseline stability (number of replans per .....)**
- **Value of re-plan (significance to baseline)**
- **Correctness (number of retroactive accounting changes)**
- **Sensitivity (when EVMS data first indicated final outcome)**
- **Percent LOE content**

# Level Of Detail

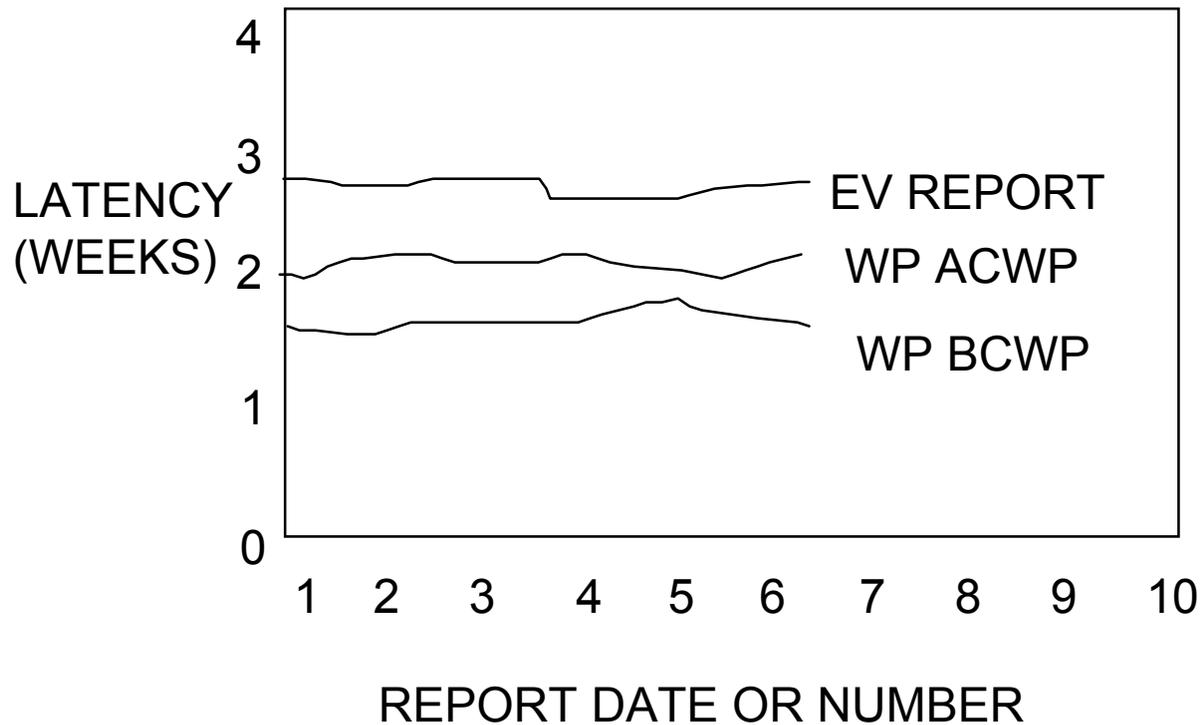


# Accuracy And Latency

QUANTITY  
(NOT VALUE)

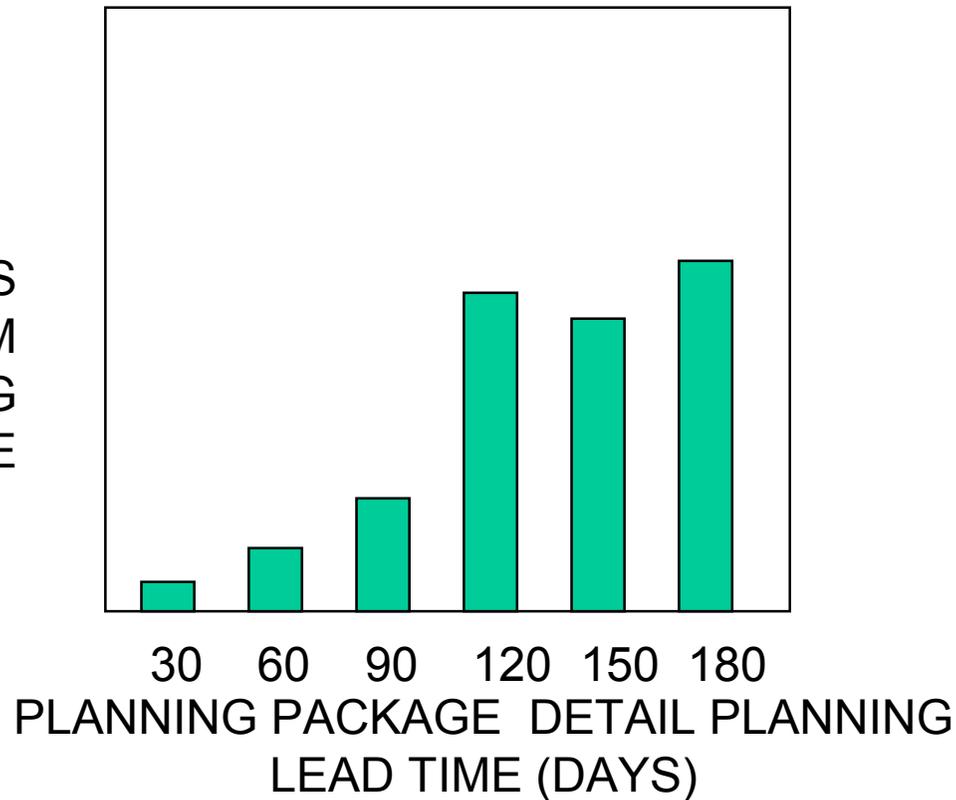


# Data Latency

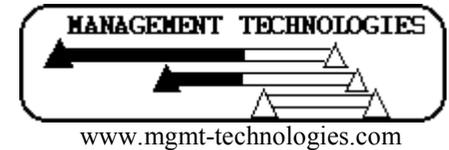


# Planning Package Lead Time

NUMBER OF PLANS  
PROMOTED FROM  
PLANNING  
PACKAGE

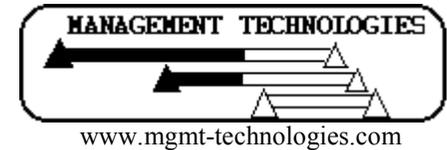


# Attributes of Level 5 - OPTIMIZING



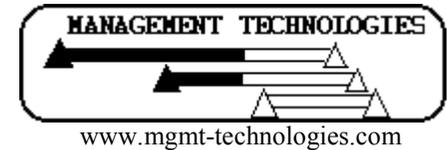
- **Planning and tracking improvement of the Earned Value Management System**
- **Budgets and schedule are defined for improvements**
- **EVMS defect causes are determined, prioritized, and reduced**
- **EVMS defect prevention is planned**

# Level 5 Characteristics



- **Organization has a EVMS Improvement Plan in place**
- **Process engineering is funded to implement improvements in EVMS**
- **Improved processes are injected into new projects**
- **Planned versus achieved improvements are compared**
- **Improvement plans are revised as needed**
- **EVMS process data is continually analyzed for further improvements**

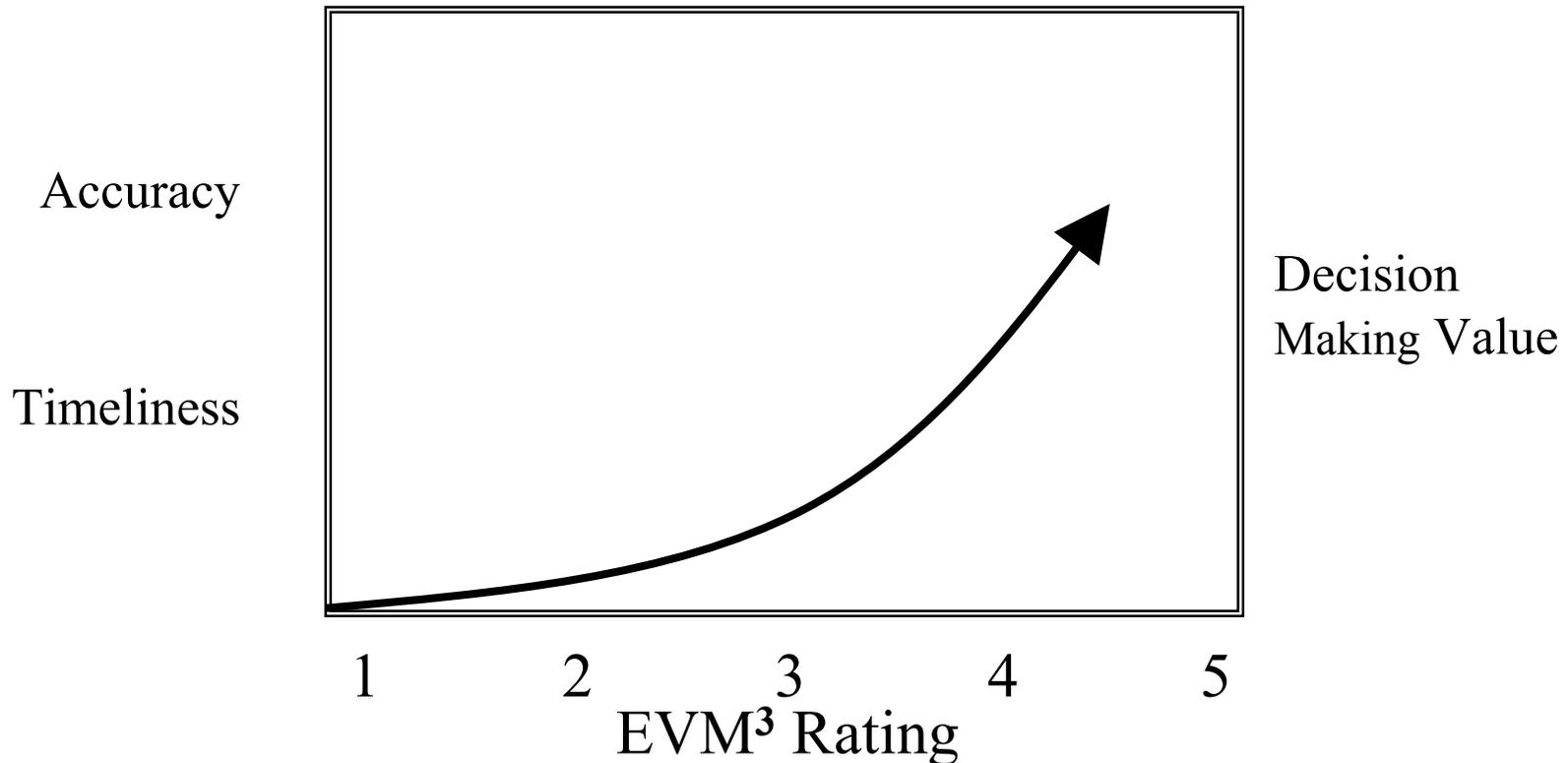
# **EVM<sup>3</sup> takes us beyond ANSI 748**



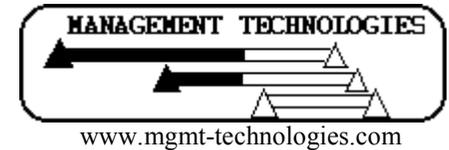
- **EVMS Training**
- **Earned Value Process Group (EVPG)**
- **Earned Value Repository**
- **Earned Value Process Metrics**
  - **measuring the organization's Earned Value process**
  - **application of statistical process control (SPC) methods**
- **Earned Value Process Improvement**
  - **tracking the efforts to improve the process**

# So, How Good is Your EVMS?

- Just ask “What is your EVM<sup>3</sup> Maturity Rating”

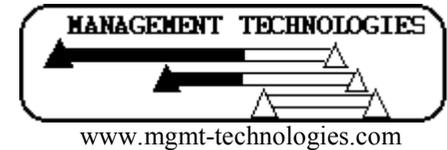


# Obtaining the EVM<sup>3</sup>®



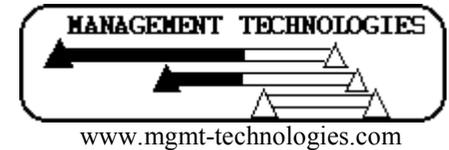
- **It's free!**
- **Downloadable (pdf)**
  - **[www.mgmt-technologies.com](http://www.mgmt-technologies.com)**

# Obtaining Assessments



- **EVM<sup>3</sup> Assessment Teams**
  - **Mix of external and internal assessors**
  - **Depth of understanding internal practices**
  - **Adds objectivity and benchmark data**
- **Assessment Results**
  - **Confidential, formal report and recommended plan of action**
- **Utilizes authorized assessors and lead assessors**

# Contact Information



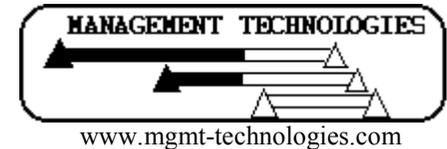
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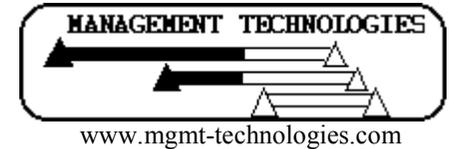
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# ACRONYMS



- **EMV<sup>3</sup>® - Earned Value Management Maturity Model®**
- **EIA - Electronic Industries Alliance**
- **ANSI - American National Standards Institute**
- **EVMS - Earned Value Management System**
- **EVPG - Earned Value Process Group**
- **LOE - Level of Effort**