

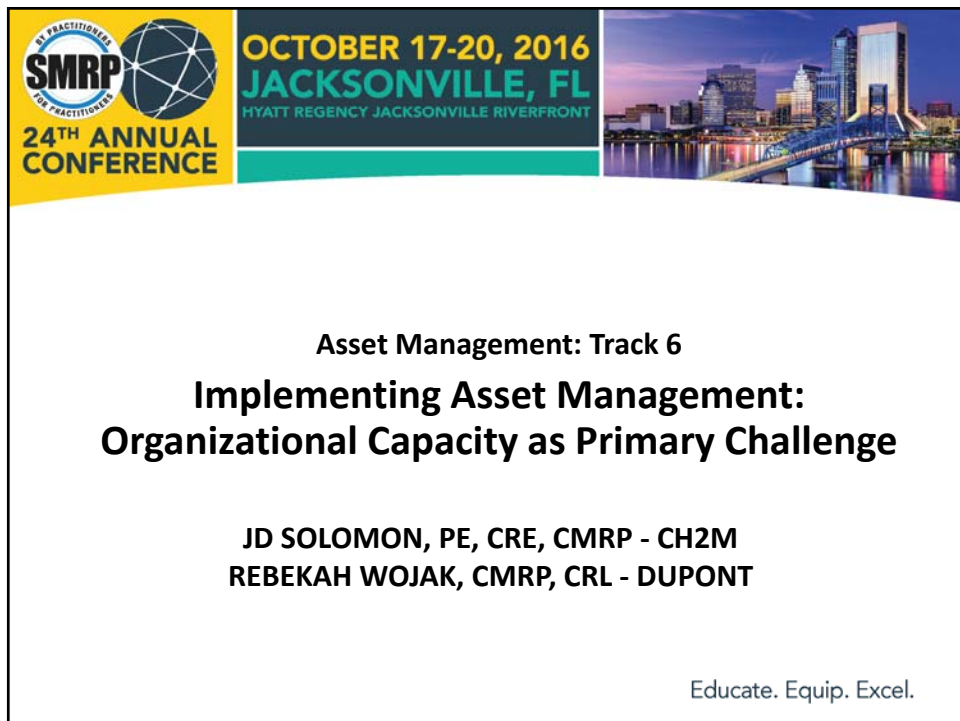





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**OCTOBER 17-20, 2016**  
**JACKSONVILLE, FL**  
 HYATT REGENCY JACKSONVILLE RIVERFRONT

**Asset Management: Track 6**

**Implementing Asset Management:  
Organizational Capacity as Primary Challenge**

JD SOLOMON, PE, CRE, CMRP - CH2M  
 REBEKAH WOJAK, CMRP, CRL - DUPONT

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## JD Solomon

- **Vice President and Senior Consultant for CH2M**
  - Strategic Planning, Asset Management, O&M Consulting, Financial Management
  - Numerous public and private sector industry sectors
  - First “asset management” project 30 years ago for a zoo
  - Co-author of Solomon-Oldach Asset Prioritization (SOAP) Method
  - Key developer of NC’s state infrastructure asset management program
  - Very good travel and showcase baseball coach

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## Rebekah Wojak



- **Operational Reliability and Engineering Consultant at DuPont**
  - Reliability and Maintenance Center of Excellence
  - Global corporate lead for DuPont’s Asset Management Optimization Program
  - 2016 residing President for Maintenance Excellence Roundtable
  - Vice Chair for Indiana SMRP
  - Mechanical Engineering Advisory Board- RHIT
  - From Indiana and enjoy playing basketball and softball
  - Leading my 1<sup>st</sup> mission trip next month to help the Ixil people of Guatemala

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## Why this talk? Why at this time?

- Speakers have been a part in more than 2 dozen AM implementations
- Both private and public sectors
- Many companies are starting to ramp up Asset Management
- Have been able to map out a pattern seen across 10 industries
- Now is the time to learn from a common equation of success



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## Overview of Asset Management

- Asset Management represents an emerging challenge to maintenance and reliability professionals
- The international standard, ISO 55000, defines an asset as being  
*"something that has potential or actual value to an organization (whether tangible or intangible, financial or non-financial)"*
- Translates the organization's objectives into asset-related decisions plans, and activities using a risk based approach
- Involves the balancing of costs, opportunities, and risks against the desired performance of assets to achieve an organizations objectives

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# Overview of Asset Management

## The Seven Questions of Asset Management

- 1. What do we own?
- 2. What is it worth?
- 3. What condition is it in?
- 4. What is its useful life?
- 5. Do we need to renew or replace it?
- 6. When do we need to renew or replace it?
- 7. How do we pay for it?

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# Overview of Asset Management

- 1. What do we own?
- 2. What is it worth?
- 3. What condition is it in?
- 4. What is its useful life?
- 5. Do we need R&R?
- 6. When do we need R&R?
- 7. How do we pay for it?

Identification, Characteristics, & Tracking

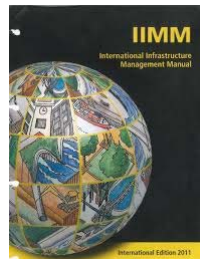
Health, Diagnostics, Prognostics  
Risk Management  
Reliability Engineering  
Financial Management

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# the “What” or the “How”

Successful implementation of asset management is more about the “how” implementations should be conducted rather than the “what” should be done



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# the “What” or the “How”

IAM’s Subject Specific Guidelines (SSG) are a good example - It also underscores the potential complexities -

- Group 1 - Strategy & Planning**
1. Asset Management Policy
  2. Asset Management Strategy & Objectives
  3. Demand Analysis
  4. Strategic Planning
  5. Asset Management Planning

- Group 2 - Asset Management Decision-Making**
6. Capital Investment Decision-Making
  7. Operations & Maintenance Decision-Making
  8. Lifecycle Value Realisation
  9. Resourcing Strategy
  10. Shutdowns & Outage Strategy

- Group 3 - Life Cycle Delivery**
11. Technical Standards & Legislation
  12. Asset Creation & Acquisition
  13. Systems Engineering
  14. Configuration Management
  15. Maintenance Delivery
  16. Reliability Engineering
  17. Asset Operations
  18. Resource Management
  19. Shutdown & Outage Management
  20. Fault & Incident Response
  21. Asset Decommissioning & Disposal

- Group 4 - Asset Information**
22. Asset Information Strategy
  23. Asset Information Standards
  24. Asset Information Systems
  25. Data & Information Management

- Group 5 - Organisation & People**
26. Procurement & Supply Chain Management
  27. Asset Management Leadership
  28. Organisational Structure
  29. Organisational Culture
  30. Competence Management

- Group 6 - Risk & Review**
31. Risk Assessment & Management
  32. Contingency Planning & Resilience Analysis
  33. Sustainable Development
  34. Management of Change
  35. Asset Performance & Health Monitoring
  36. Asset Management System Monitoring
  37. Management Review, Audit & Assurance
  38. Asset Costing & Valuation
  39. Stakeholder Engagement

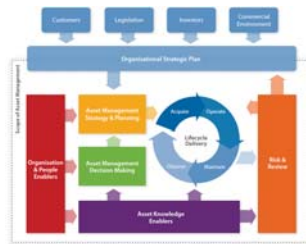
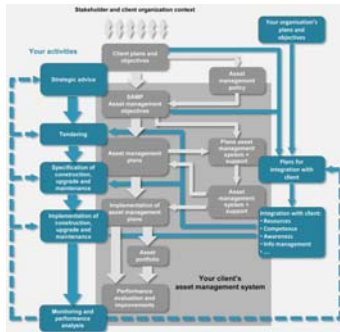


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# the “What” or the “How”

Most of the “What” references also have crazy process graphics  
- This is telling us something too -



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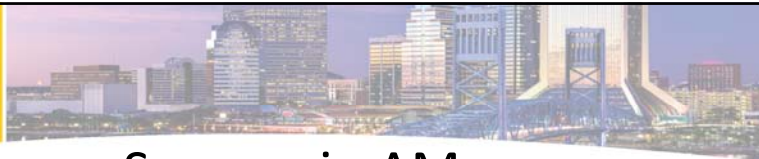


# the “What” or the “How”

Cookie cutter implementation tasks and approaches have proven elusive, even in the same industry or at different locations within the same company



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## Success in AM

- Why do some companies in the same industry fail at implementing lasting change through Asset Management while others utilizing the same approach succeed?
- When implementing Asset Management broadly in brother plants throughout a corporation why do some of the plants really struggle with making changes?

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## Organizational Capacity

Understanding Organizational Capacity will change the way you implement not only Asset Management but every improvement you have to make at your sites from this point forward



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**Organizational Capacity = Secure Harbor + CID Nexus + Personality/Time**

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# Organizational Capacity



- “The Secure Harbor”
  - Aspect 1 includes having and maintaining a secure or safe place that is ripe for continual improvement
- “The CID Nexus”
  - Aspect 2 envelops the nexus of capability, information, and decisions. What is the current decision making structure, information systems, and workforce capabilities?
- Personality
  - Aspect 3 pulls in the natural personality that develops over the long-term in the majority of organizations.

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# Secure Harbor



- A Secure Harbor is an atmosphere that a site or company has created that encourages and rewards ingenuity, creativity, and outside the box problem solving
- Success breeds success and the Secure Harbor is the atmosphere in which continuous improvement success will breed

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# Secure Harbor

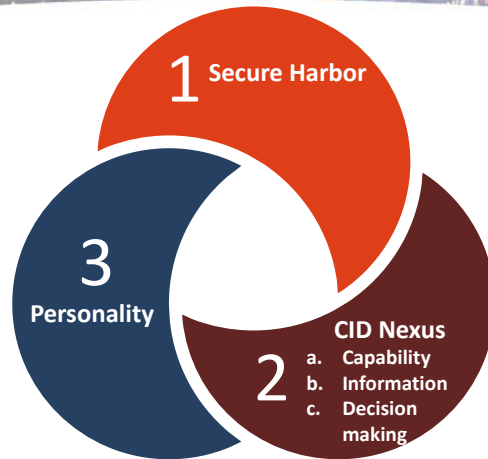


- This harbor, or safe place, after established must be protected if continuous improvement and growth is to continue
- A good way to gauge if your site/company has a Secure Harbor in place is to think about the level of comfort a site has with the following:

*“A person who never made a mistake never tried anything new.”*

*-Albert Einstein*

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**Organizational Capacity =  
Secure Harbor + CID Nexus + Personality/Time**

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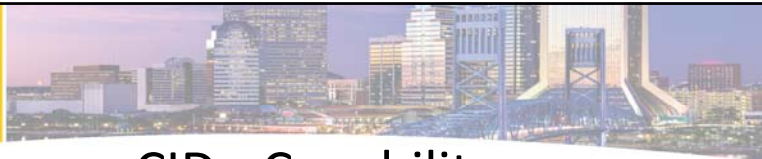


## CID Nexus



- Capability, Information, and Decisions
- An often unnoticed or occasionally exclusive, and therefore not properly considered, nexus exists between a site's decision making structure, in place information systems (decision support structure), and workforce capabilities
- Transparency across the CID Nexus is powerful and is the key to overcoming hurdles in your Asset Management implementation

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## CID - Capability



- Bloom's Taxonomy breaks down the barrier between short term skills improvement, and longer term understanding and application
- Levels
  1. Remembering
  2. Understanding
  3. Applying
  4. Analyzing
  5. Evaluating
  6. Creating

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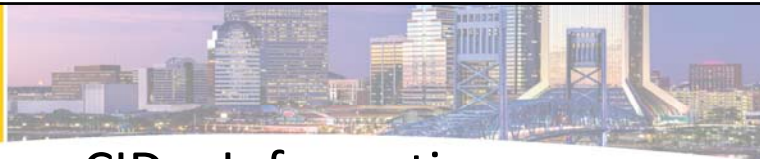


## CID - Capability



- Remembering and Understanding is the most common level that most AM programs focus on– it is not enough
- Creating is the level for effective implementation that is also sustainable
- Allows personnel to overcome obstacles at the lowest level:
  - Empowering them with a foundation of knowledge and skills
  - Tapping into a new solution when faced with a new challenge
- The creating level is sustained when a site has a Secure Harbor in place

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## CID – Information



- Information is important
- However, data is expensive and time consuming
- Most AM programs try to collect too much data
  1. Most of us are techies and like data
  2. Someone may need it to convert to information (one day)
  3. The AM reference books tell us to do it first
  4. The EAMS vendors tell us that is what we need to do
  5. It is easy
- It also bogs down many implementations

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## CID – Decision Making



### Two Types of Thinking

- System 1: Intuitive, Common Sense (Decision is tactical)
- System 2: Analytical, Statistical (Decision is strategic)

### Multiple Types of Organizational Decision Making

- Command and Control
- Management by Objectives
- Many versions in between

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# CID Nexus



- Capability, Information, and Decisions
- Most experts stress that decision support system quality align with capabilities, structure, and decision making practices
- Some argue that the decision support system quality should actually drive the organization structure and the related workforce capabilities and decision making structure
- Regardless, there is a nexus, perhaps even a “sweet spot”, that is unique to every organization (or plant) that will dictate the implementation success of your asset management program

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**Organizational Capacity =  
Secure Harbor + CID Nexus + Personality/Time**

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## Personality over Time



There is a difference between an organization's/plant's culture and their personality

Three key concepts:

- Mood
- Personality
- Culture

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## Personality over Time



Mood- short term challenges, not permanent. Yearly budget challenges, demand spikes for product, rare event, etc. causes the organizational mood to change

Some events that shape the mood:

- Financial Challenges
- Compliance Problems
- Health & Safety Issues
- Merger & Acquisitions
- Reorganization and Senior Management Turnover

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## Personality over Time



Personality – how one operates, weathers the “moods” that may come and go throughout the year(s), the default mode that an organization usually comes back to.

Some Personality Types Include:

- Planning organization (both in Maintenance and otherwise)
- Outgoing organization (wishes to be considered the industry leader, selected first, and be first in line)
- Efficient organization (yearly performance dominates)
- Reactive organization (rewards emergency response)

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## Personality over Time



Culture - bounds that each plant within an organization live between, often pervasive across entire company, should be fairly easy to pick up on

- Different personalities can exist within those bounds and still have the same underlying culture



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## Personality over time



- Organizational mood or personality will impact implementation
- Key for implementers is to get an understanding of the mood and a pulse on the personality
- The approach must be adjusted accordingly
- Organizational moods may change from the time you initiate your implementation to ½ way through – be cognizant of this

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## Personality over time



### Planning Personality

#### Pros

- Appreciate lifecycle aspects of asset management
- Will put the time into workshops and x-functional activity

#### Cons

- May struggle in the pilot position, even if the mood of that year is one of economic prosperity
- Too much ready, aim, aim, aim
- Often do not produce enough short-term results

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## Personality over time



### Outgoing Personality

#### Pros

- Like awards and recognition, so want to be the best
- Want others to follow, so being out front or first desired

#### Cons

- Short attention spans
- Quick to move to next new thing once initial recognition success
- Often more interested in the narrative, not the measures

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## Personality over time



### Efficient Personality

#### Pros

- Measureable results
- Appreciate short-term wins needed for on-going senior support

#### Cons

- Do not appreciate lifecycle aspects
- Will not spend time mapping long-term process improvements
- Will not put the time into workshops and x-functional activity

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## Personality over time



### Reactive Personality

#### Pros

- Appreciate the practical aspects
- Often good team work amongst the best fire fighters

#### Cons

- Lack of true leadership causes emergency actions and tactical thinking to be the only way to keep the ship afloat
- A lot of over-confidence (recoverability and risk management)
- Will not see the value in data or data maintenance
- Will not fully appreciate lifecycle considerations

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## DISCUSSION



Organizational Capacity =  
Secure Harbor + CID Nexus + Personality/Time

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