



Asset Management

Managing Assets at Scale...

Presenters



Dean Stanberry, CFM, LEED AP O+M

Dean has over 20 years of broad-based experience in facility management, real estate portfolio management, process and quality improvement, procurement, workplace services, program and project management, space and occupancy planning, sustainability, information systems implementation, and critical environment operations.

He is an active industry advocate, serving on the IFMA Foundation Board of Trustees, is past chair of the Environmental Stewardship, Utilities, and Sustainability (ESUS) Community, and chairs the Government Affairs Committee. Dean is currently 1st Vice-Chair of IFMA's Global Board of Directors.



Karson Wynne

Karson has over 20 years of experience in industrial construction, hydroelectric power plant management, and facilities management. He excels at identifying improvement opportunities and implementing solutions to increase productivity. Adept at overseeing projects from start to finish, Karson provides technical assistance and guidance for optimizing operational efficiency.

With a diverse background in both public and private industries, he is a valuable asset in developing enterprise strategies for O&M. His expertise extends to guiding organizational change, integrating enterprise management systems, devising policies to accomplish program objectives, and propelling organizations toward their goals.

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Asset Management Fundamentals

**Asset Management is maximizing
the value of an asset over its
useful life.**

**What does ESG have to do
with Asset Management,
and Why do “they”
want facility data?**

Lemons, Peaches and Creampuffs: the Economics of a Second-Hand Market

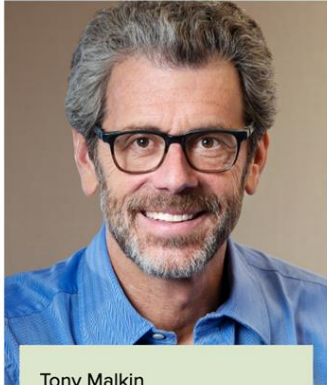
by P. VAN CAYSEELE*

Creampuffs & Lemons



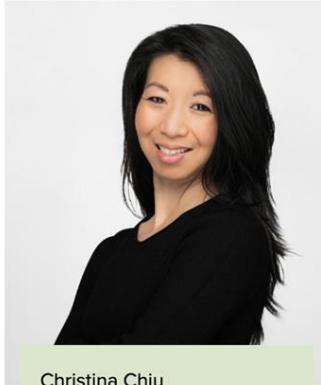
Entity

Executive Management



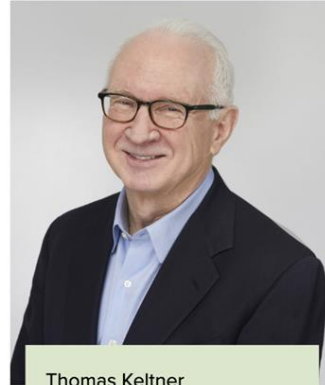
Tony Malkin

Chairman, President and Chief Executive Officer



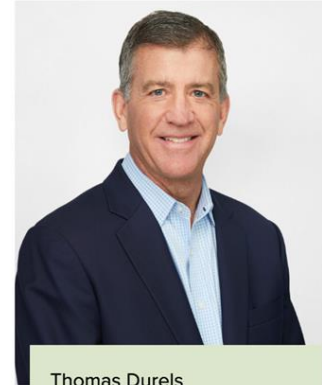
Christina Chiu

Executive Vice President and Chief Financial Officer



Thomas Keltner

Executive Vice President and General Counsel



Thomas Durels

Executive Vice President, Real Estate

For the transition period from to

Commission File Number: 001-36105

EMPIRE STATE REALTY TRUST, INC.

(Exact name of Registrant as specified in its charter)

Maryland

(State or other jurisdiction of incorporation or organization)

37-1645259

(I.R.S. Employer Identification No.)

111 West 33rd Street, 12th Floor

New York, New York 10120

(Address of principal executive offices) (Zip Code)

(212) 850-2600

(Registrant's telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Act:

Title of Securities	Trading Symbol	Exchange on Which Traded
Class A Common Stock, par value \$0.01 per share	ESRT	The New York Stock Exchange
Class B Common Stock, par value \$0.01 per share	N/A	N/A
Securities registered pursuant to Section 12(g) of the Act:		
None		

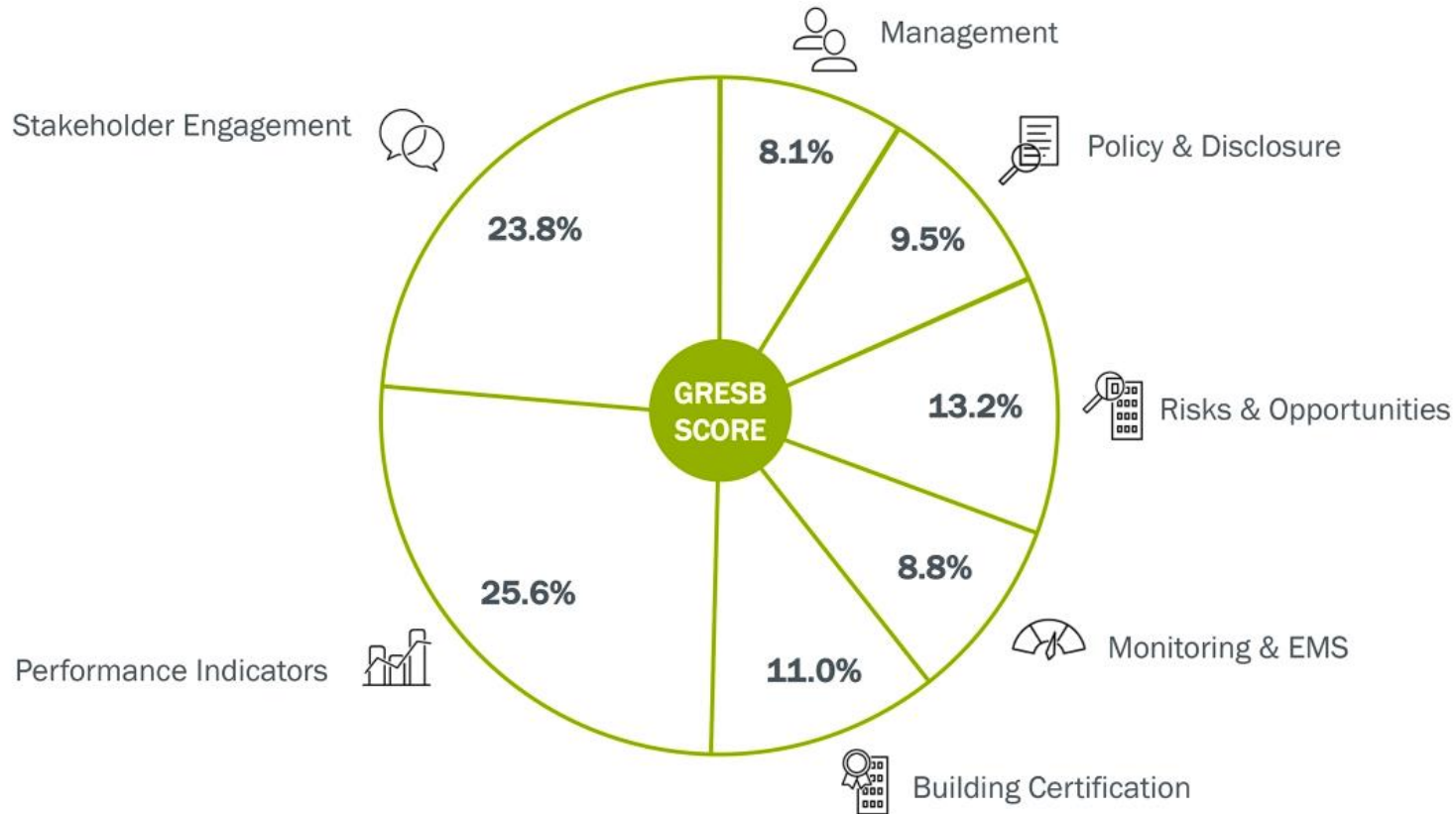
Asset



Courtesy: Chris Pyke, SVP – Arc Skoru

Entity

Executive Management



Class A Common Stock, par value \$0.01 per share
Class B Common Stock, par value \$0.01 per share

ESRT
N/A

The New York Stock Exchange
N/A

Securities registered pursuant to Section 12(g) of the Act:
None

Asset

LEED® for Commercial Interiors

Total Possible Points 110***

	Sustainable Sites	21
	Water Efficiency	11
	Energy & Atmosphere	37
	Materials & Resources	14
	Indoor Environmental Quality	17

* Out of a possible 100 points + 10 bonus points

** Certified 40+ points, Silver 50+ points,
Gold 60+ points, Platinum 80+ points

	Innovation in Design	6
	Regional Priority	4

2075 L St, NW Business as Usual



2101 L St., NW Better

Why It's Green

This building is green because it has 32 green activities that achieved outcomes of energy efficient design, water use reduction, sustainable site selection and development + 5 more

32

**Green
Projects**
[See all »](#)

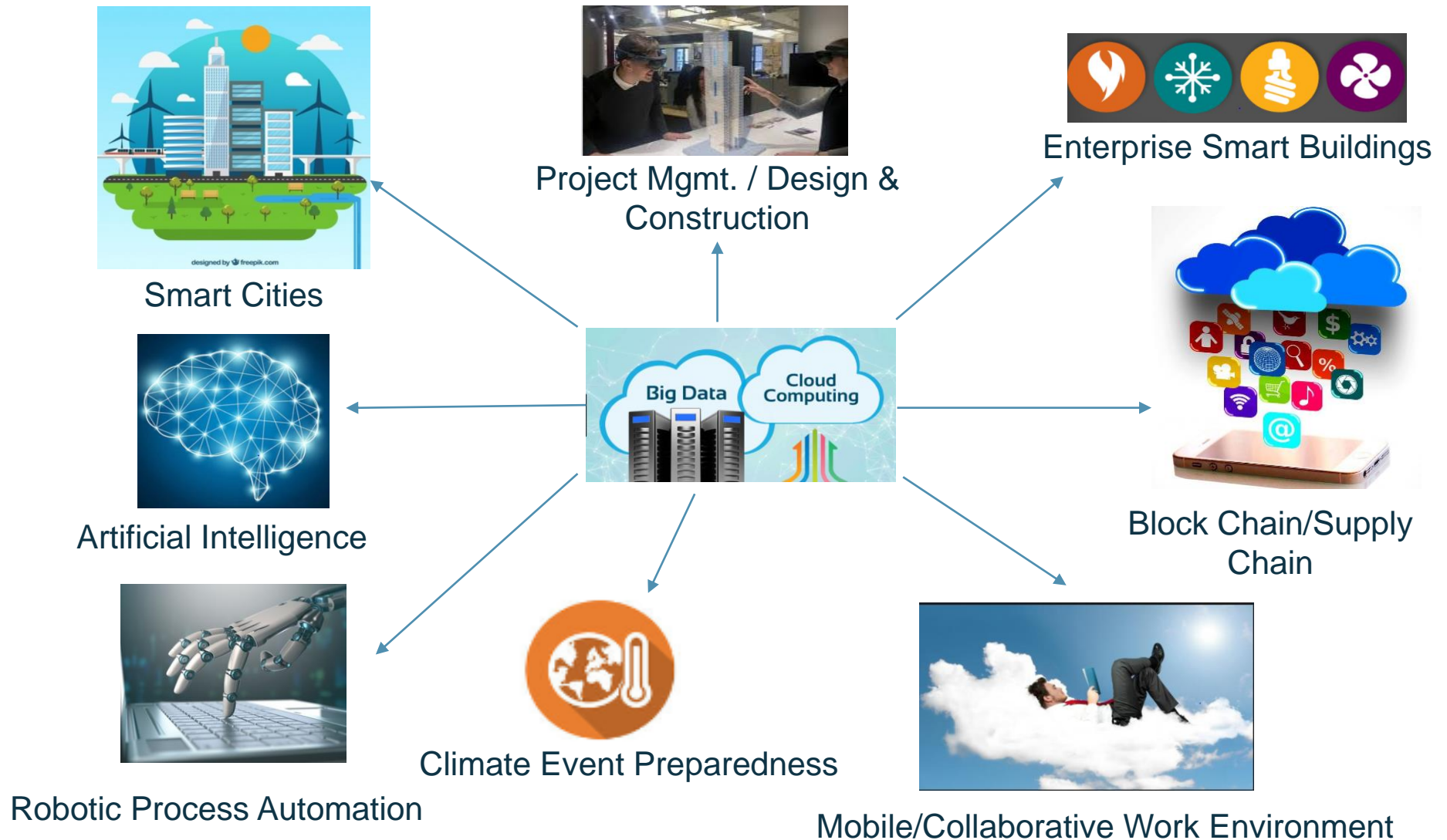


 PLATINUM CERTIFIED (2)	 SILVER CERTIFIED	 CERTIFIED	
 2010, 2011, 2014, 2015, 2016, 2017, 2018, 2020		 PARTICIPANT (3)	
PROFILE (3)	CASE STUDY	BENCHMARKED (3)	CORPORATE SUSTAINABILITY REPORT
 REGISTERED (8)			

AWARDS & CERTIFICATIONS



The Elephant Herd in the Room



It Gets More Complicated...



A *smart city* is a municipality that uses information and communication technologies to increase operational efficiency, share information with the public, and improve the quality of government services and citizen welfare.

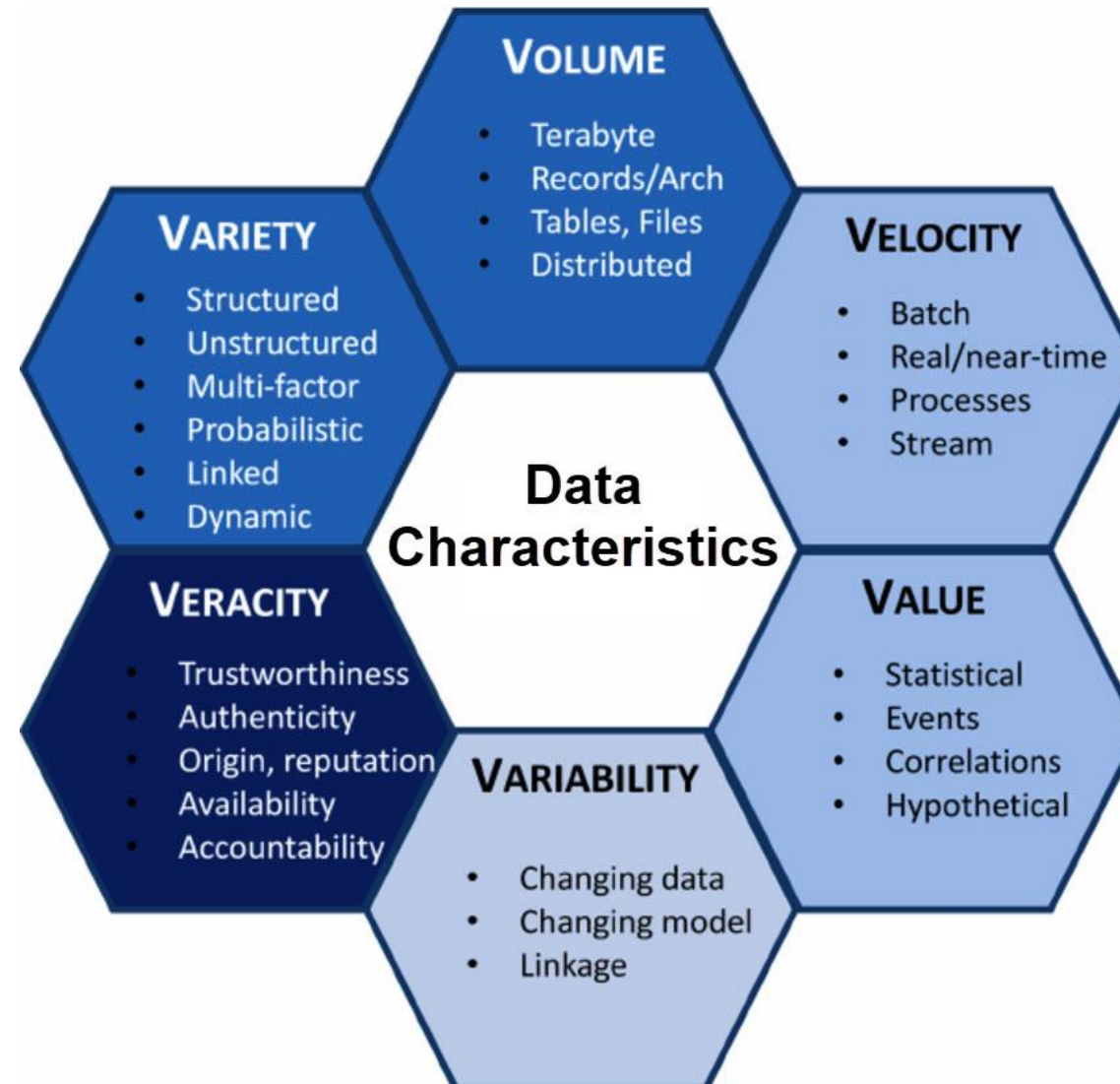
Building Block: Know Your Data

Variety

Variety is defined as the different types of data we can now use. Data today looks very different than data from the past. We no longer just have structured data (name, address, etc...) that fits nicely and neatly into a data table. Today's data is unstructured. 80% of all the world's data fits into this category, including photos, social media updates, and more.

Veracity

Veracity is the quality or trustworthiness of the data. Just how accurate is all this data? For example, consider all the Twitter posts with hashtags, typos, etc., and the content's reliability and accuracy. Gleaning loads of data is useless if the quality or trustworthiness is not there.



Velocity

Velocity refers to the speed at which vast amounts of data are being generated, collected, and analyzed. Not only must it be analyzed, but the speed of transmission and access to the data must also remain instantaneous. Big data technology allows us now to analyze the data while it is being generated without ever putting it into databases.

Value

When we talk about value, we're referring to the worth of the data being extracted. It is important to understand the costs and benefits of collecting and analyzing the data to ensure that ultimately the data that is reaped can be monetized.

Bad Data = Bad Decisions

Data is collected in most businesses and is often thought of as record-keeping. When an inspection is completed, an employee's performance is reviewed, or maintenance is recorded. The record kept for future reference in order to achieve objectives, such as making better business decisions.

Five Factors of High-Quality Data

1. Completeness
2. Consistency
3. Accuracy
4. Validity
5. Timeliness

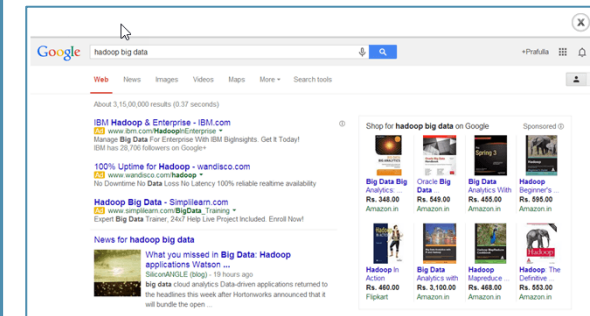
Structured Data

An 'Employee' table in a database is an example of Structured Data

Employee_ID	Employee_Name	Gender	Department	Salary_In_lacs
2365	Rajesh Kulkarni	Male	Finance	650000
3398	Pratibha Joshi	Female	Admin	650000
7465	Shushil Roy	Male	Admin	500000
7500	Shubhojit Das	Male	Finance	500000
7699	Priya Sane	Female	Finance	550000

Un-structured Data

Output returned by 'Google Search'



Standards – Yes, they Matter...

International Standards

- ▶ ISO 9000 – Quality Management System
- ▶ ISO 14001 – Environmental Management System
- ▶ ISO 41000 – Facility Management System
- ▶ ISO 50001 – Energy Management System
- ▶ ISO 55000 – Asset Management System

Internal Standards

- Naming Conventions
(Field Names, File & Folder Names)
- Record Standards
(Required Minimums)
- Performance Standards
(Quality Measures, KPI's)

Industry Standards

- Construction Operations Building Information Exchange (COBie)
- Construction Specifications Institute (CSI)
(Uniformat II, MasterFormat, OmniClass)
- OSCRE International
(Industry Data Model)
- Uptime Institute
(Data Center – Tier Standards)
- LEED (USGBC)
- Joint Commission on Accreditation of Healthcare Organizations (JCAHO)

The nice thing about standards is that there are so many to choose from...

Standards are part of the solution to achieving consistency of operations and the desired data quality attributes of accuracy, completeness, and timeliness.

Building Block: What you need to Know about Assets

Basic Asset Information

- Manufacturer
- Model
- Serial Number
- Description
- Asset Type
- Asset Classification (IFC, Omniclass)
- Criticality
- Location
- Equipment Owner
- Installation Date
- Expected Life (Years)
- Lifecycle End Date
- Expected End of Life
- Warranty
- Purchase Price
- Replacement Cost

Suggested Reference: [Maintenance & Reliability Best Practices, 3rd Edition](#)

Conditional Information

- Attributes (asset type dependent – examples)
 - *Air Flow Rate*
 - *Refrigerant Type*
 - *Refrigerant Capacity*
 - *Amps*
- Maintenance Schedule
- Safety & Hazard Information
- Condition Assessment
- Run to Fail (no inspections or maintenance)
- Manuals & Specifications

Dynamic Information

- Downtime/MTBF/MTTR
- Energy Produced/Energy Use
- Fuel Volume
- Pressure Reading
- Refrigerant Leakage Rate
- Temperature
- Humidity

What do we collect from Operations?

Operations activities are generally documented in the form of a Work Order. Work Orders should contain basic information about the activity, labor, materials, and possible information about asset performance and conditions.

Work Order Basis

- Work Type & Subtype
- Description
- Priority
- Asset(s)
- Location(s)
- Job Plan (scheduled maintenance)
- Estimated Labor Time (scheduled maintenance)
- Problem/Failure Code (corrective maintenance)
- Lead/Craft Assigned
- Reported/Target Start Date
- Target Finish Date

Work Order Outcomes

- Actual Labor Hours/Rate/Totals
 - Includes names and/or crafts involved
- Materials Used/Costs/Totals
- Actual Start/Response Date/Time
- Actual Finish Date/Time
- Log Notes (detailed actions performed)
- Inspection/Testing Results (conditional)
- Asset Condition Assessment (conditional)
- Asset Performance Readings (conditional)
- Asset Downtime (conditional)
- Failure Cause/Remedy (conditional)
- Documentation (service reports, logs, photos)

Building Block: Mobility - Current State

Adoption & usage rates are still low

- Less than 40% of major corporations/organizations have fully deployed enterprise/full mobile solutions for MRO
- Approximately 60% of these groups have deployed single-purpose mobile apps (or mobile web apps)
- App usage levels in these organizations average around 35% of the overall mobile users

Worker & workplace demographics are rapidly changing

- Boomers are retiring (and walking their undocumented knowledge out the door)
- Data quality is suffering due to inability to easily and accurately capture data in the field
- Organizations not keeping pace with technology - younger workers expect to utilize modern technology

Technology advances are rapidly outpacing reality at many companies

- IoT, Digital Twin, AI, etc. are here now (and here to stay)
- Organizations, in all reality, are still struggling with pen & paper data capture, low tech adoption
- An almost impossible leap from today's reality to a better tomorrow

Offline is still a thing

- 5G will not save the world – high antenna density required, signal fragility, competition for bandwidth
- Dead zones persist

Mobility: Importance to Asset Mission

The capabilities of a mobile platform needed to support an organization's Asset Mission:

- Rapid, accurate, enforced data capture
- Availability of accurate and more meaningful data to shift some immediate decision making from the back-office to the mobile user
- Purposeful User Experience (UX) designed for immediate and sustained app adoption & usage
- Robust data handling, including offline, data scalability, sync performance, data loss prevention, and automated data capture
- Access to ANY data the mobile user might require, including data from sources other than the asset management system

Mobility: App Design Considerations

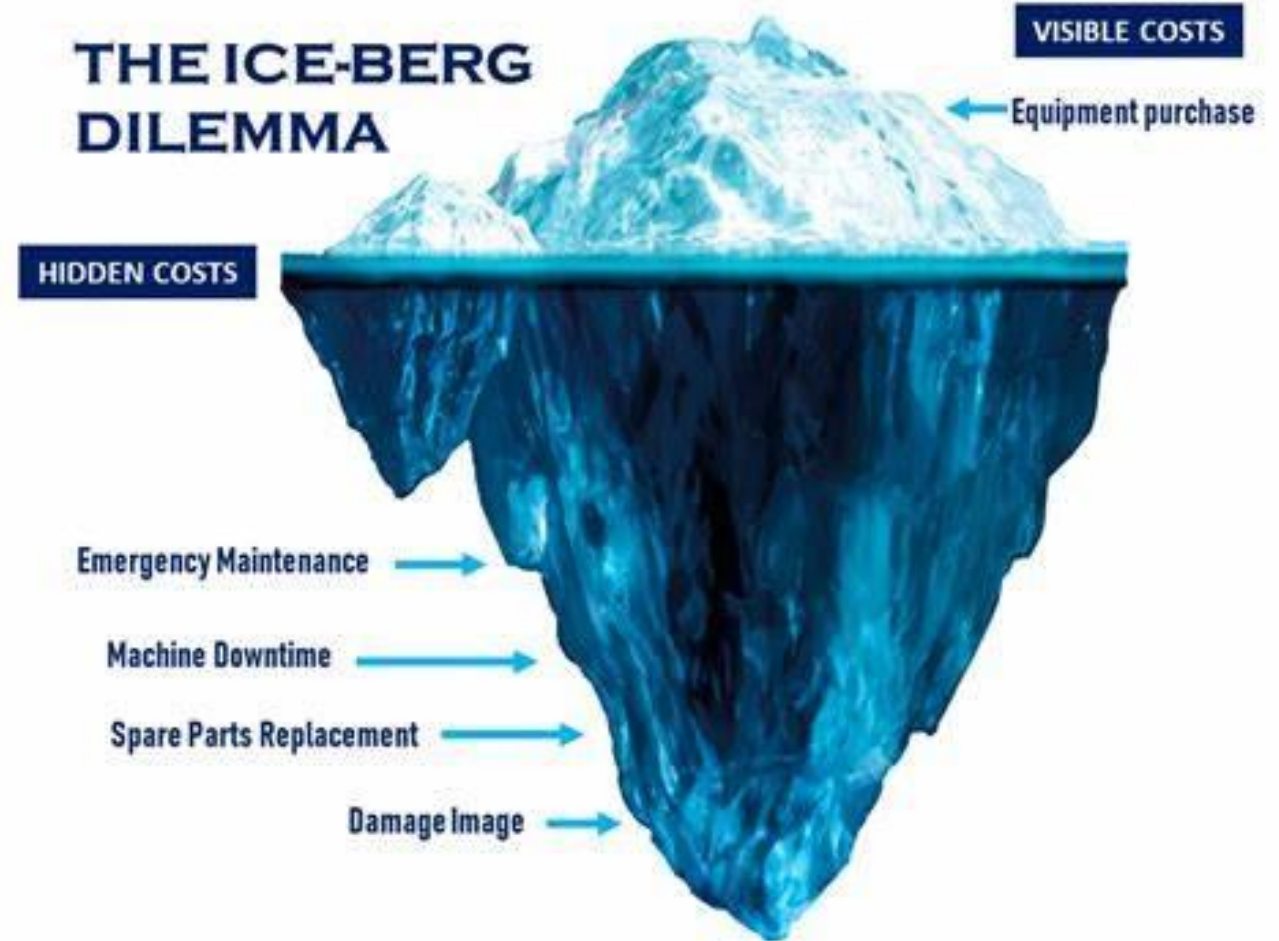
Yes:

- Minimum Viable App to start to promote immediate adoption & usage
- Business rules “baked” into the app
- Automated data capture where possible
- Data aggregation from multiple sources
- Flexible configurations (no code changes in minutes not months)
- Offline with large data store
- Scalability (accounting for 30% asset data growth annually)
- Sync performance with no data loss

No:

- Overdesigning apps, too many requirements – Y.A.G.N.I. Principle: *“You Ain’t Gonna Need It”*
- Mimicking the EAM screens in an app – design for the mobile user, not a desktop user (browser)
- Putting too much data on the device – filter and distill by role
- Designing & deploying single-activity apps
- Letting IT & Admin requirements overtake business requirements

Building Block: Total Cost of Ownership (TCO)



TCO Math and Success Factors

TCO – the math

C_a = **Initial Asset Costs** / First Cost
(One Time)

C_b = Cost of **Operations and Maintenance** (Recurring)

C_c = Cost of **Utilities** (Recurring)

C_d = Cost of **Renewal** (Recurring)

C_e = Cost at **End of Useful / Functional Life** (One Time)

Success Factors

- must be adopted by leadership and embraced by the organization
- must align with the mission of the organization, institution, or agency
- requires transparent information flow and exchange
- principles call for a management system that collects and distributes information
- is meant to be scalable
- requires a decision on the time and effort to be invested relative to the value of TCO
- requires an organization to make fiscal and organizational decisions

TCO and FM

MANAGEMENT



STRATEGY

Specific goals to be achieved over time.



PLANNING

Intermediate activities toward achieving goals and revenue objectives.



GOVERNANCE

Rules, policies, and procedures ensure accuracy, reliability, compliance, and security.



VERIFICATION

Checks & balances to ensure policy & procedure compliance.



REPORTING

Summary & detailed reporting supporting leadership & operations.

GUIDANCE & EXPECTATIONS



Start with the Basics



Data Collection: Key information is gathered through daily activities.

Facts: Documentation & evidence to substantiate budget needs.

Maximize Asset Value over its Useful Life

OPERATIONS



1 Asset Inventory

Maintain a complete and accurate inventory of managed Assets.



2 Planning & Scheduling

Inspections, testing, & maintenance required to maintain an Asset's useful life.



3 Maintenance & Repair

Execute scheduled maintenance and respond to unplanned events.



4 Balance Workload

Evaluate workload and optimize resources to maximize performance.



5 Condition Assessment

Assess and record Asset condition, update Asset expected life as needed.



6 Trending & Forecasting

Compare actual spending against the budget and adjust spending plans as needed.



7 Expense Planning

Analyze trends & new requirements to develop next fiscal year budget.

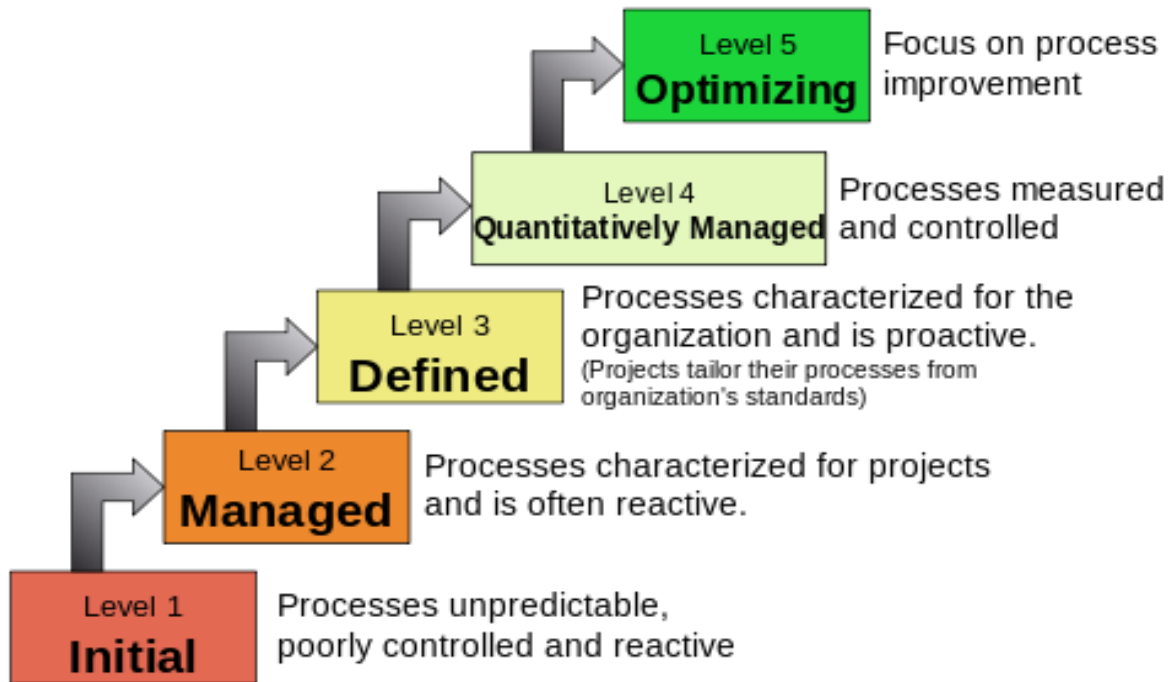


8 Capital Planning

Review Asset life cycle and condition assessment data to revise capital plans.

Building Block: Maintenance Maturity

Characteristics of the Maturity levels



- ▶ A Maintenance & Reliability Maturity (or Competence) strategy objectively assesses an organization's ability to implement/deliver its primary function. The Capability Maturity Model (CMM) originated in the software development industry but generally applies to most organizational functions.
- ▶ The higher the organization's maturity level, the greater value it can derive from tools such as Maximo. This is typically a leadership-driven strategy. It is potentially a vehicle to measure organizational culture change over time and a yardstick for the organization to gauge progress and celebrate successes.

Building Block: Organizational Challenges

There are many potential organizational challenges,

- Ineffective communication in the workplace
- Change management
- Conflict management
- Understanding employee expectations
- Employee development
- Employee wellbeing

Just to list a few...

What is within your sphere of control, and what is within your sphere of concern? What are you doing to help, or hurt, these challenges?

You Need a Vision and Mission

- **A Vision for the future**
 - where are we going?
- **A Mission that defines what we are planning to do**
 - what will be accomplished?
- **Strategies that zero in on a key success approach**
 - how will we get there?
- **Goals and an action plan to guide our activities**
 - when will we get there?



VISION: A vision statement is a short, succinct, and inspiring declaration of what an organization intends to become or to achieve at some point in the future.

Achieve operational excellence in Asset & Maintenance Reliability through universal adoption and effective utilization of the Maintenance Management System.

MISSION: A mission statement is an organization's vision translated into written form. It's a view of the direction and purpose of the organization, and a vital element in any attempt to motivate staff and give them a sense of priorities.

Provide guidance and oversight on the utilization of Maximo to improve and maintain Asset data integrity, train the Maintenance Management System User community, and advance performance in support of organizational goals & objectives.

Strategies, Goals & Action Plans

Strategies

Strategy is a broad term commonly describing any thinking looking at the bigger picture. A successful strategy adds value to the target customers over the long run by consistently meeting or exceeding, their needs. It is a plan based on an organization's mission to gain a sustainable advantage.

The objectives must be;

- Focused on a result, not an activity
- Consistent
- Specific
- Measurable
- Related to time
- Attainable

Goals & Action Plans

The major outcome of strategic planning is the setting of goals and action plans for the organization based on its vision and mission statement. A goal is a long-range aim for a specific period. It must be specific and realistic. Long-range goals set through strategic planning are translated into activities that will ensure reaching the goal through operational planning.

No matter how many goals are set, an organization can only go as far as the organizational culture will allow it. Best practices are improvements, and improvements are change.

Staff must have trust and see some benefits for them, and for the overall good. They must see “what’s in it for me” (WIIFM). Any organization that will succeed in bringing about a culture change must have some form of change management process. The success rate of any culture change will be limited by the inspiration of the leadership or the vision of the team.

Leading Change: Why Transformation Efforts Fail

[Harvard Business Review Article: John P. Kotter](#)

Error #1: Not Establishing a Great Enough Sense of Urgency

Error #2: Not Creating a Powerful Enough Guiding Coalition

Error #3: Lacking a Vision

Error #4: Under-communicating the Vision by a Factor of Ten

Error #5: Not Removing Obstacles to the New Vision

Error #6: Not Systematically Planning For and Creating Short-Term Wins

Error #7: Declaring Victory Too Soon

Error #8: Not Anchoring Changes in the Corporation's Culture

Closing Remarks

- ▶ Understand the external factors driving the CRE Industry.
- ▶ Technology evolves exponentially, Organizations evolve logarithmically.
- ▶ CRE is becoming a Data-Driven industry. It's the data that matters, not the tools.
- ▶ Standards & Certifications matter. Don't have any standards deployed? Pick some – get started...
- ▶ You need Policies, Standards, Procedures; Followed by Processes, People, Tools – In this Order!