SAFETY MOMENT

LADDER SAFETY

- Use the correct ladder for the job
- Inspect the ladder before each use
- Only one person at a time
- When heading down, look before you step
- Use the correct angle, supports, treads, cross brace, and rails
SAFETY MOMENT
LADDER SAFETY
AGENDA

- Why are we here today?
- How has the role of Materials Management Solutions shifted in light of AWP?
- What is Modern Materials Management?
- Why Implement Modern Materials Management?
- How Does Modern Materials Management Support AWP?
- Modern Materials Management Implementation Best Practices
POLLING INSTRUCTIONS

- Please Pull Out Your Phone
- Select New Text Message
- Enter “37607” into the Phone Number
- Enter “Jovix2015” into the Text Message Field
- Press “Send”

You will receive a message back indicating that you have joined the JOVIX2015 session.
POLL QUESTION 1

Given that employees who are just entering the workforce have never lived in a world without Amazon and eBay, would you say that your approach to materials management is modern?

GROUP RESPONSE:

YES 36%

NO 64%
WHY ARE WE HERE TODAY?

» 65% of industrial mega projects are:
  – More than 25% over budget
  – More than 25% over schedule

» Owners are frustrated with increasing costs of capital projects

» Collectively we must find a way to address inefficiencies or the whole industry will be impacted

» The results are in: Improved planning provides the greatest opportunity for efficiency gains

* Edward W. Merrow, Industrial Mega Projects
SHIFTING ROLE OF MATERIALS MANAGEMENT SOLUTIONS

- Legacy solutions are "procurement-centric"
SHIFTING ROLE OF MATERIALS MANAGEMENT SOLUTIONS

- Legacy solutions are “procurement-centric”
- Emergence of sophisticated WFP solutions has shifted the role to **construction-centric**

- Jovix® supports construction by providing a material-centric view of an asset throughout its lifecycle
SHIFTING ROLE OF MATERIALS MANAGEMENT SOLUTIONS

As AWP/WFP systems and processes become more sophisticated and powerful the **limiting factor** now is access to **accurate real-time material data**.
EXTENDING THE DECISION HORIZON
EARLY DETECTION ENABLES TIMELY CORRECTION

Truck Arrives

Receipt Processing
OS&D Processing
Hot Material Replacement

Construction Impact Date
Productivity Loss
EXTENDING THE DECISION HORIZON
EARLY DETECTION ENABLES TIMELY CORRECTION

Truck Departs Supplier → Truck Arrives
Receipt Processing → OS&D Processing → Material Replacement
Receipt Processing → OS&D Processing → Hot Material Replacement
Construction Impact Date
EXTENDING THE DECISION HORIZON
EARLY DETECTION ENABLES TIMELY CORRECTION

Truck Departs
Supplier

Material Replacement

Receipt Processing

Truck Arrives

Receipt Processing

OS&D Processing

Hot Material Replacement

Construction Impact Date
HOW DOES MODERN MATERIALS MANAGEMENT SUPPORT AWP?

Handling Exceptions:
- CWP and IWPs updated based on design changes
- CWP and IWPs updated based on schedule/resource changes

Handling Exceptions:
- Material fails inspection
- Material delayed in the supply chain
MATERIALS MANAGEMENT CHALLENGES
THE PROBLEM

63% of the average craft laborer’s time is OFF TOOLS with a large portion wasted WAITING ON MATERIALS.

*COAA WORKFACE PLANNING
POLL QUESTION 2

Do you have a programmatic approach to recording material readiness issues that impact construction productivity? (Do you know your baseline?)

GROUP RESPONSE:

YES 21%

NO 79%
WHAT CAUSES THE PROBLEM?
Decrease Direct Labor Productivity
WHAT CAUSES DECREASED PRODUCTIVITY?
REACTIVE DECISION MAKING

- Lagging & Inefficient

DETECT  CORRECT
WHAT CAUSES DECREASED PRODUCTIVITY?

REACTIVE DECISION MAKING

- Lagging & Inefficient
- Rear-Facing & Reactive
WHY DOES THIS PROBLEM EXIST?
WHAT CAUSES THE PROBLEM?
MODERN SUPPLY CHAIN COMPLEXITY

Single-Site Stick-Built Ecosystem
WHAT CAUSES THE PROBLEM?
MODERN SUPPLY CHAIN COMPLEXITY

Modern Modular Approach
MODERN MATERIALS MANAGEMENT IS THE SOLUTION.
WHAT IS MODERN MATERIALS MANAGEMENT™?
DIGITIZING & AUTOMATING THE JOBSITE

REAL-TIME DATA COLLECTION IN THE FIELD

MATERIAL YOU
LOCATION IS ONE SMALL PIECE
Modern Materials Management Digitizes the Entire Material Lifecycle
WHAT VALUE DOES JOVIX™ PROVIDE?

Documented Savings of:

- **Direct Labor Budget**: 3% - 5%
- **Indirect Labor Budget**: 3% - 5%
- **Material Budget**: 0.5% - 1%
WHY MODERN MATERIALS MANAGEMENT?
BUILT FOR THE BOOTS & THE SUITS
BUILT FOR THE BOOTS & THE SUITS

NO MORE CLIPBOARDS™

MANAGE BY EXCEPTION™
AUTO-ID ENABLED, MOBILE, MULTI-SITE

Automating Data Collection Through the Use of Auto-ID Technology
AUTO-ID ENABLED, MOBILE, MULTI-SITE

Vehicle-Mounted Reader
Mobile Tablet
Gate Readers

Access Real-Time Data
Web-Based Server Application

Extending Data Collection to the Point of Transaction with Mobile
### Jovix - Construction Project

#### Materials
- **Material ID**: Valve
- **Description**: Gate Valve SW CL800
- **Status**: Submitted
- **Quantity**: 1.000
- **Maintenance**: N/A

#### Work Packages
- **WP-203-3071-29467**: Job 45019 - Picking
  - % Completeable: 100
  - % On-Site: 83
  - % Requested: 100
  - % Reserved: 0
  - % Picking: 83
  - % Picked: 83
  - % Issued: 83
  - Days To Impact: 13

- **WP-203-3071-29499**: Job 45019 - Picking
  - % Completeable: 100
  - % On-Site: 80
  - % Requested: 100
  - % Reserved: 0
  - % Picking: 80
  - % Picked: 0
  - % Issued: 80
  - Days To Impact: 109

- **WP-203-3071-29540**: Job 45019 - Picked
  - % Completeable: 100
  - % On-Site: 71
  - % Requested: 100
  - % Reserved: 0
  - % Picking: 71
  - % Picked: 0
  - % Issued: 71
  - Days To Impact: 232

- **WP-203-3071-29456**: Job 45019 - Initial
  - % Completeable: 100
  - % On-Site: 75
  - % Requested: 100
  - % Reserved: 0
  - % Picking: 75
  - % Picked: 0
  - % Issued: 75
  - Days To Impact: 100

- **WP-203-3071-29458**: Unit 3 - Requesting
  - % Completeable: 100
  - % On-Site: 50
  - % Requested: 100
  - % Reserved: 0
  - % Picking: 50
  - % Picked: 0
  - % Issued: 50
  - Days To Impact: 73

- **WP-203-3071-29511**: Job 45019 - Requesting
  - % Completeable: 100
  - % On-Site: 90
  - % Requested: 0
  - % Reserved: 0
  - % Picking: 90
  - % Picked: 0
  - % Issued: 90
  - Days To Impact: 145

- **WP-203-3071-29492**: Job 45019 - Requested
  - % Completeable: 100
  - % On-Site: 33
  - % Requested: 100
  - % Reserved: 0
  - % Picking: 33
  - % Picked: 0
  - % Issued: 33
  - Days To Impact: 88

- **WP-203-3071-29458**: Job 45019 - Picking
  - % Completeable: 100
  - % On-Site: 33
  - % Requested: 100
  - % Reserved: 0
  - % Picking: 33
  - % Picked: 0
  - % Issued: 33
  - Days To Impact: 133

- **WP-203-3071-29506**: Job 45019 - Picking
  - % Completeable: 571
  - % On-Site: 33
  - % Requested: 100
  - % Reserved: 0
  - % Picking: 33
  - % Picked: 0
  - % Issued: 33
  - Days To Impact: 130
AUTO-ID ENABLED, MOBILE, MULTI-SITE

Vehicle-Mounted Reader

Mobile Tablet

Gate Readers

Access Real-Time Data

Web-Based Server Application

Combined Visibility Across Multi-Sites, Multi-Projects & Multi-Contractors
EXAMPLE IMPLEMENTATION

Complex, International Port, Material Control Process
INTELLIGENT & AUTOMATED JOBSITE
Awarded to the company for excellence in technology implementation for construction

BEST IMPLEMENTATION
Awarded to the company for best use of RFID to improve supply chain
OWNER/OPERATOR

Owner Visibility Layer

- EPCM 1
- EPCM 2
- EPCM 3
- EPCM 4
- EPCM 5

Laydown Yards
Suppliers/Vendors
Warehouses
Workface
Fabricators

OWNER/OPERATOR

Materials Management Visibility

Contractor Materials Management

Track & Trace
OWNER VISIBILITY: A CASE STUDY

Example KPI Dashboard Views:

- Heavy Haul Shipments
- Current Work Package Status
- Work Package Forecast
- Preventative Maintenance Compliance Status
- Receiving Cycle Times
- Issuing Cycle Times
- Material Skyline
HOW DOES THE TECHNOLOGY WORK?
TRANSFORMING DATA INTO ACTION

REAL-TIME
COLLECT

AUTOMATED
PROCESS

COMPREHENSIVE
ANALYZE

PROACTIVE
ACT

DELAYED
INBOX

MANUAL

INCOMPLETE

REACTIVE

STATUS QUO
DIGITAL DATA COLLECTION

- Gate Readers
- Vehicle Mounted Readers
- Mobile Tablets & Readers
- Web-Based Software
POLL QUESTION 2

Are you currently using mobile tablets to capture materials management transactions in the field?

GROUP RESPONSE:

YES 25%

NO 75%
AUTOMATED DATA COLLECTION

COLLECT

Barcodes
Read Range: 2 Feet or Less

RFID

Passive
Read Range: 100 Feet or Less

Active
Read Range: 1500 Feet or Less

GPS
Read Range: Global

Jovix
COLLECT

REAL-TIME INTEGRATIONS

ENGINEERING

ERP

SCHEDULING

WORKFACE PLANNING

MODERN MATERIALS MANAGEMENT SYSTEM

Jovix
BACKGROUND PROCESSING

- Pre-Configured Business Rules
- Automated Processing

Example: Automated Material Allocation
BACKGROUND PROCESSING

WP Forecast

Job(s): All
Date Range: 1/17/2015 - 3/23/2015
WP Type: All

- 4% Completable on RAS Date
- 87% < 70% Completable
- 4% 100% Completable
- 9% > 70% Completable
Automated status rules update material location and availability to construction in real-time
Automated status rules update material location and availability to construction in real-time
Automated status rules update material location and availability to construction in real-time
MANAGE BY EXCEPTION

- Graphical, Exception-Based Presentation
- Easy to Consume, Actionable Information
PROACTIVE ISSUE RESOLUTION

- Prevent Material Readiness Issues from Impacting Construction
  - Assign Activities
  - Manage Tasks
  - Facilitate Collaboration
  - Configure Workflows
HARDWARE
TRUSTED 3RD PARTY / SME

- Atlas is a Software Company
- Certification of the Best of Breed Hardware
- Proactively Enhancing COTS Options
HARDWARE PURPOSE BUILT FOR CONSTRUCTION

- Increased Ruggedness
- Embedded Passive Tag
- Firmware Enhancements
- Additional Sensors
EXAMPLE CERTIFICATION: THERMAL TESTING

- Cycle from -40°C to 60°C
- Original barcode labels peeled
EXAMPLE CERTIFICATION:
CRUSH TESTING

3,500 pound crush rating
EXAMPLE CERTIFICATION: UV TESTING

- Simulated 7 years of exposure
- Original overmold cracked
BEST PRACTICES
EXAMPLES OF IMPLEMENTATION BEST PRACTICES

- Designated System Coordinators
- Steering Committee
- Welcome Packages
- Work Instructions
- Fabricator On-Boarding Programs
ASSESSING YOUR PROJECT
Make an Informed Decision.

SCOPE
Process Definition

SCHEDULE
Implementation Plan

BUDGET
Business Case
Jovix™ is Modern Materials Management. QUESTIONS?

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