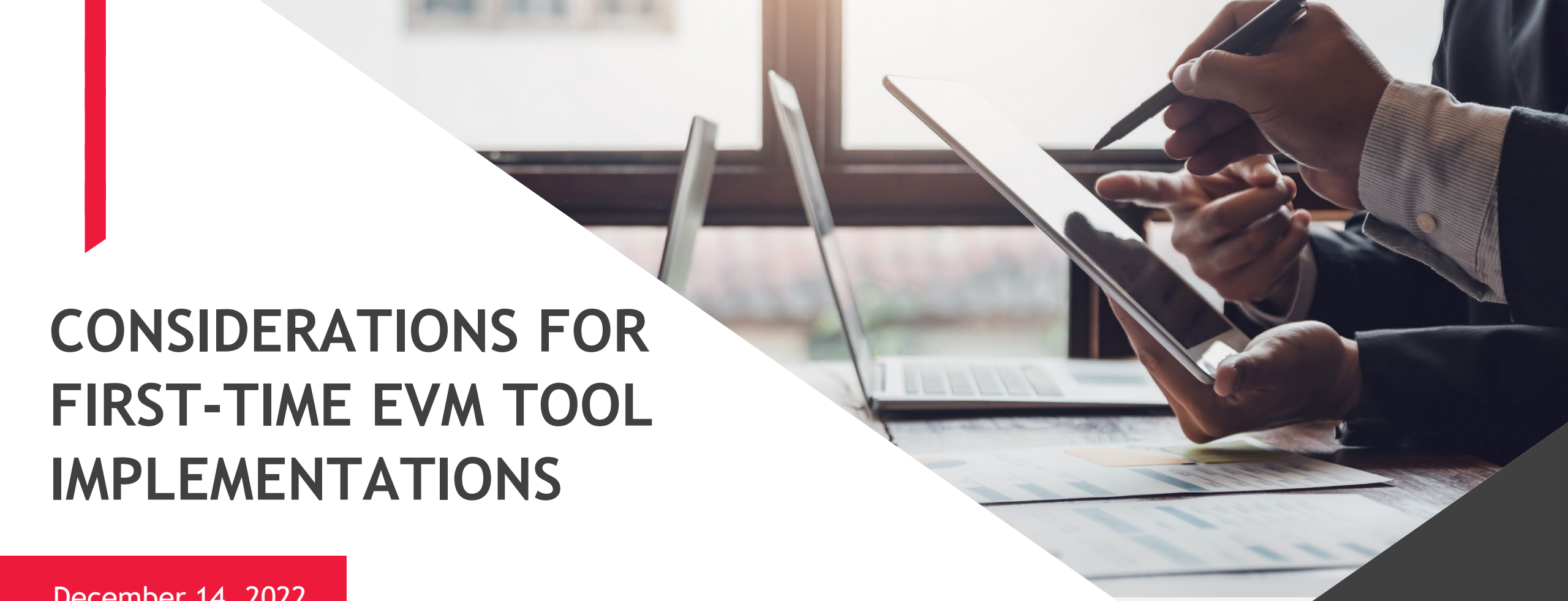

# CONSIDERATIONS FOR FIRST-TIME EVM TOOL IMPLEMENTATIONS

December 14, 2022

# With You Today

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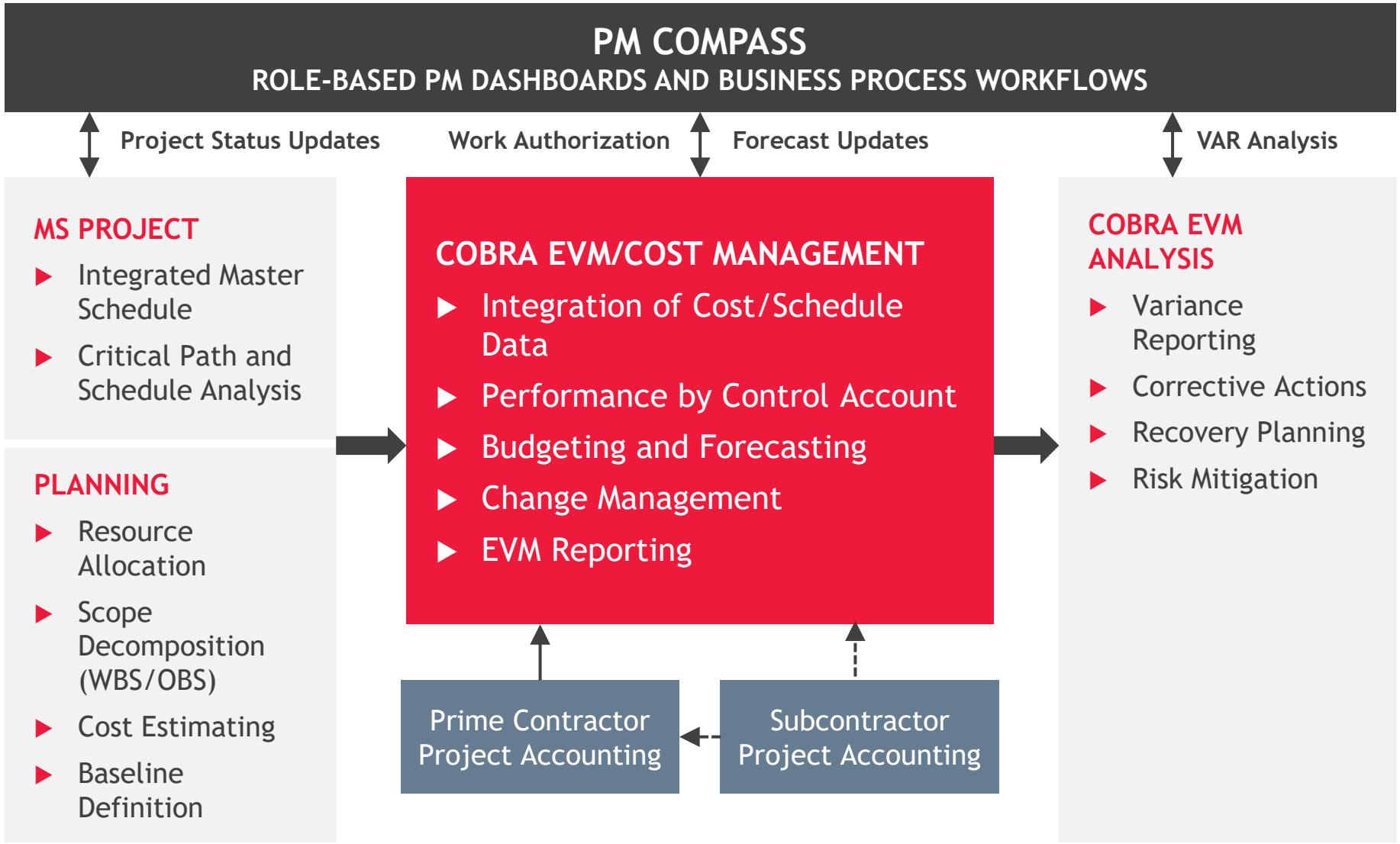
# Agenda for Today

- Why Implement an EVM Tool?
- What Are you Implementing?
  - New Project Setup
  - Existing Projects

# Why Implement an EVM Tool?

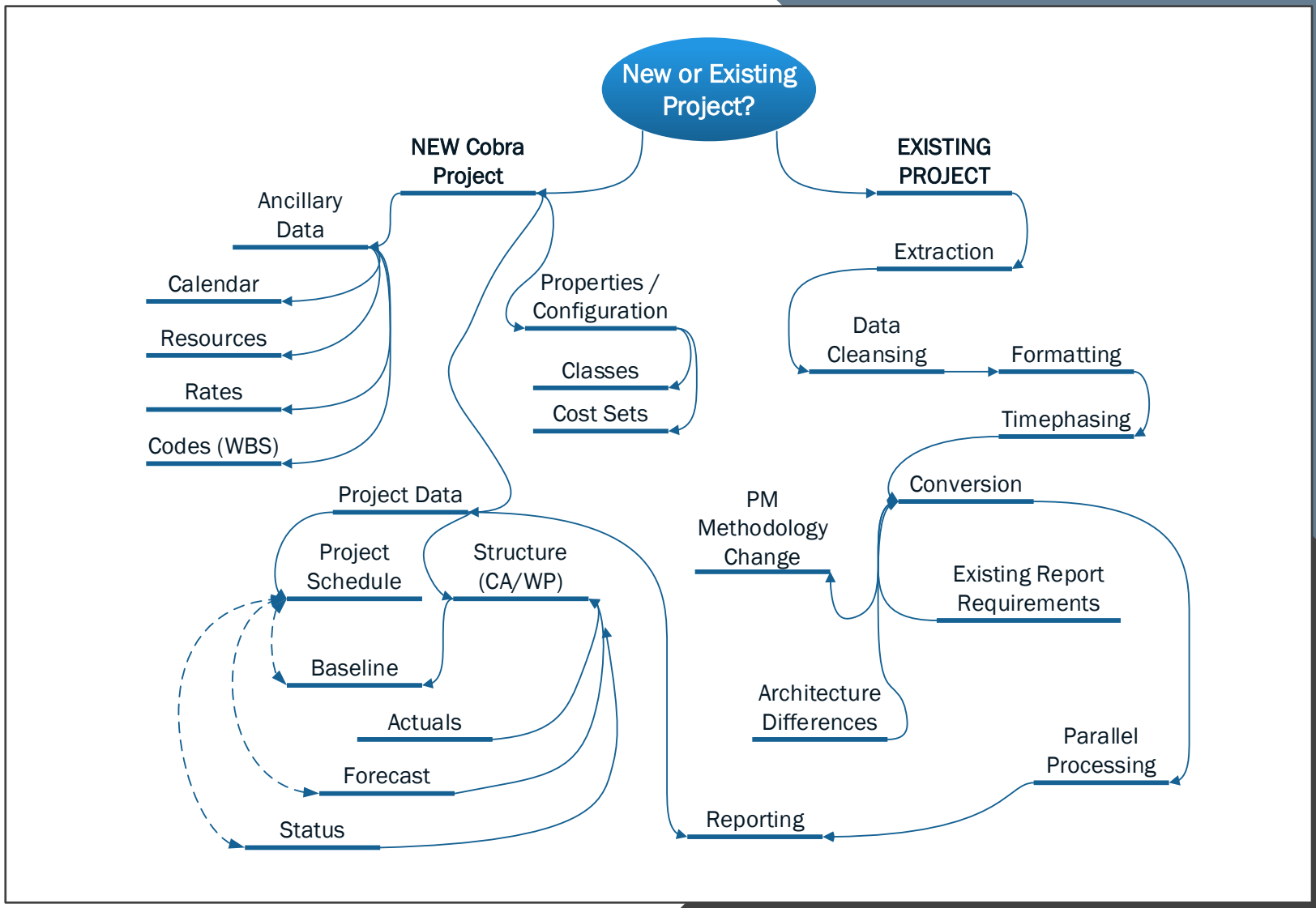
# Why Implement an EVM Tool?

# EVM/Project Controls System Architecture



# Will You Be Implementing a New or Existing Project?

# EVM Tool Implementation Overview



IMPLEMENTATIONS

# New Projects

## Considerations

- What is the intent of using an EVM Tool?
  - Internal initiative
  - EVMS compliance
  - Customer Reporting
- What Existing Data do you have?
  - Internal planning, proposal, RFP / SOW, MIL Standards
- Organizational Maturity
  - Accounting, Scheduling, Forecasting

IMPLEMENTATIONS

# Project Makeup

## Ancillary Data

- Calendar
- Resources
- Rates
- Codes (WBS)

## Project Data

- Structure
- Actual
- Baseline
- Forecast
- EVM

## Properties

- Preferences
- Codes, classes
- Header info

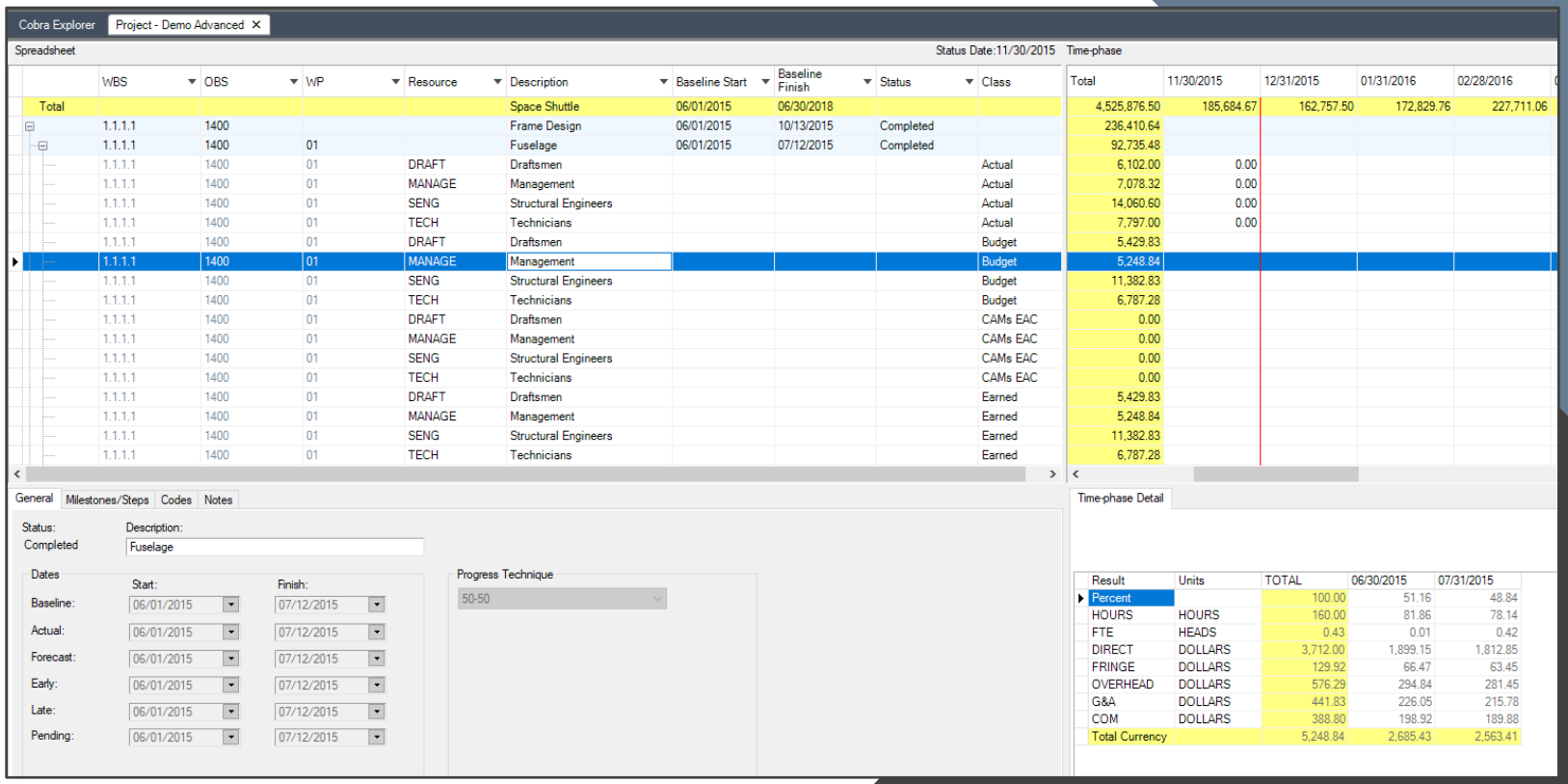



Image Source: EVM Tool

IMPLEMENTATIONS

# Calendars

## Fiscal vs. Calendar Month

What best aligns with your accounting cycle?

### 2021

**February**

| Wk | S | M | T | W | T | F | S |
|---|---|---|---|---|---|---|---|
| 1 | 31 | 1 | 2 | 3 | 4 | 5 | 6 |
| 2 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| 3 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 4 | 21 | 22 | 23 | 24 | 25 | 26 | 27 |

**March**

| Wk | S | M | T | W | T | F | S |
|---|---|---|---|---|---|---|---|
| 5 | 28 | 1 | 2 | 3 | 4 | 5 | 6 |
| 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| 7 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 8 | 21 | 22 | 23 | 24 | 25 | 26 | 27 |

**April**

| Wk | S | M | T | W | T | F | S |
|---|---|---|---|---|---|---|---|
| 9 | 28 | 29 | 30 | 31 | 1 | 2 | 3 |
| 10 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 11 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| 12 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| 13 | 24 | 26 | 27 | 28 | 29 | 30 | 1 |

**May**

| Wk | S | M | T | W | T | F | S |
|---|---|---|---|---|---|---|---|
| 14 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 15 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| 16 | 16 | 17 | 18 | 19 | 20 | 21 | 22 |
| 17 | 23 | 24 | 25 | 26 | 27 | 28 | 29 |

**June**

| Wk | S | M | T | W | T | F | S |
|---|---|---|---|---|---|---|---|
| 18 | 30 | 31 | 1 | 2 | 3 | 4 | 5 |
| 19 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 20 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| 21 | 20 | 21 | 22 | 23 | 24 | 25 | 26 |

**July**

| Wk | S | M | T | W | T | F | S |
|---|---|---|---|---|---|---|---|
| 22 | 27 | 28 | 29 | 30 | 1 | 2 | 3 |
| 23 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 24 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| 25 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| 26 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |

**August**

| Wk | S | M | T | W | T | F | S |
|---|---|---|---|---|---|---|---|
| 27 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 28 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| 29 | 15 | 16 | 17 | 18 | 19 | 20 | 21 |
| 30 | 22 | 23 | 24 | 25 | 26 | 27 | 28 |

**September**

| Wk | S | M | T | W | T | F | S |
|---|---|---|---|---|---|---|---|
| 31 | 29 | 30 | 31 | 1 | 2 | 3 | 4 |
| 32 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| 33 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
| 34 | 19 | 20 | 21 | 22 | 23 | 24 | 25 |

**October**

| Wk | S | M | T | W | T | F | S |
|---|---|---|---|---|---|---|---|
| 35 | 26 | 27 | 28 | 29 | 30 | 1 | 2 |
| 36 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 37 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| 38 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| 39 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |

**November**

| Wk | S | M | T | W | T | F | S |
|---|---|---|---|---|---|---|---|
| 40 | 31 | 1 | 2 | 3 | 4 | 5 | 6 |
| 41 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| 42 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 43 | 21 | 22 | 23 | 24 | 25 | 26 | 27 |

**December**

| Wk | S | M | T | W | T | F | S |
|---|---|---|---|---|---|---|---|
| 44 | 28 | 29 | 30 | 1 | 2 | 3 | 4 |
| 45 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| 46 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
| 47 | 19 | 20 | 21 | 22 | 23 | 24 | 25 |

**January 22**

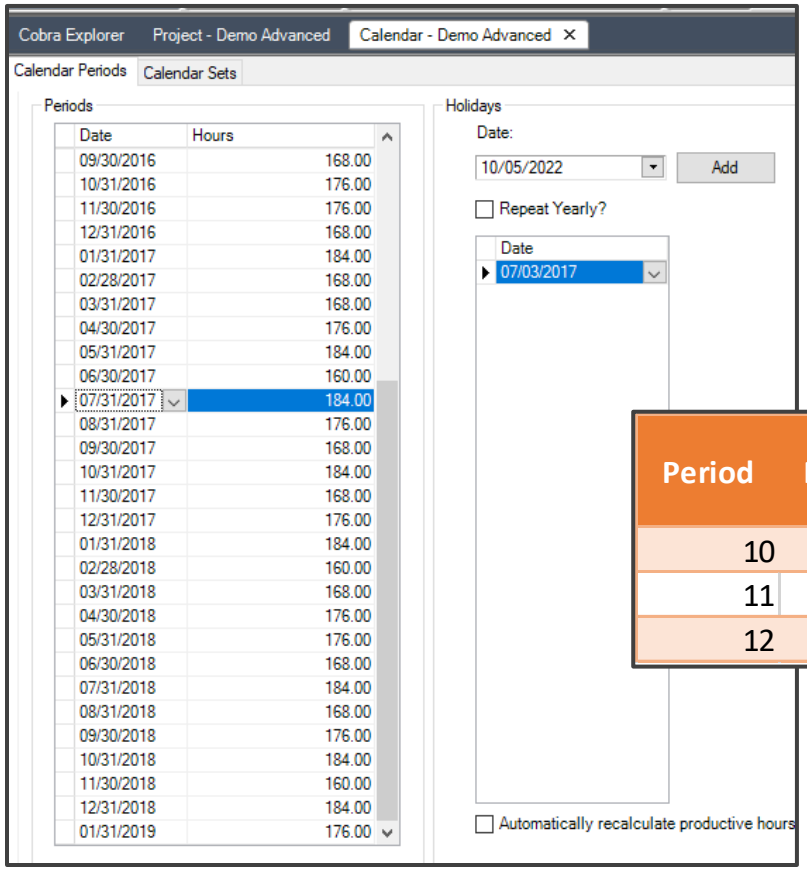
| Wk | S | M | T | W | T | F | S |
|---|---|---|---|---|---|---|---|
| 48 | 26 | 27 | 28 | 29 | 30 | 31 | 1 |
| 49 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 50 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| 51 | 16 | 17 | 18 | 19 | 20 | 21 | 22 |
| 52 | 23 | 24 | 25 | 26 | 27 | 28 | 29 |

IMPLEMENTATIONS

# Calendars

## Determining Effective/Productive Hours for FTE

- Reduction in hours for holidays and average PTO / non-billable usage




| Period | Productive Hours | Productive hours Reduced for Holidays | Productive hours Reduced for Holidays and PTO |
|---|---|---|---|
| 10 | 168 | 160 | 152.5 |
| 11 | 176 | 160 | 148.75 |
| 12 | 176 | 168 | 138 |

Image Source: EVM Tool

# Implementations Calendars

## What Are Your Reporting Requirements?

- Are you a prime or sub?
- What calendars do your subs use and how will this impact your data integration?

## Example: Subk and Prime Do Not Align

- Can use accruals or timesheet data depending if the subk period ends before or after the Prime
- Use of loading ITD actuals and separate cost classes can help with reconciliation

| Period | Prime Month End | SubK Month End |
|---|---|---|
| 1 | 1/30/2021 | 1/31/2021 |
| 2 | 2/27/2021 | 2/28/2021 |
| 3 | 3/27/2021 | 3/31/2021 |
| 4 | 5/1/2021 | 4/30/2021 |
| 5 | 5/29/2021 | 5/31/2021 |
| 6 | 6/26/2021 | 6/30/2021 |
| 7 | 7/31/2021 | 7/31/2021 |
| 8 | 8/28/2021 | 8/31/2021 |

IMPLEMENTATIONS

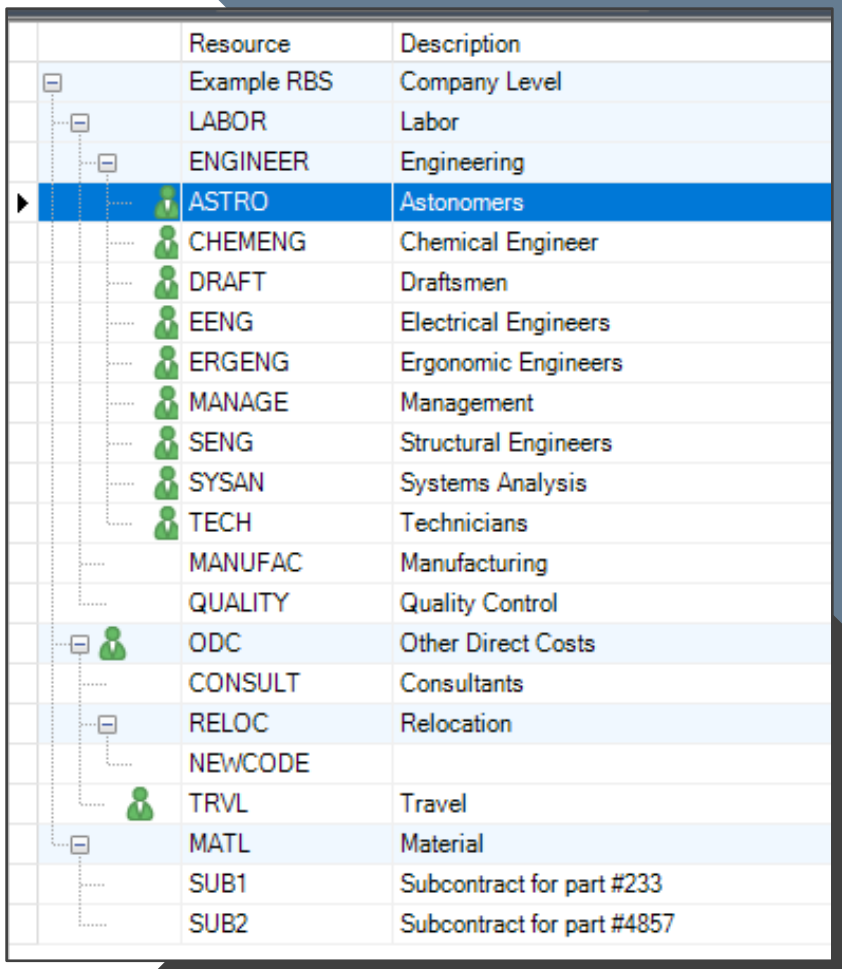
# Resources

## Resource File

- Hierarchical structure of resources by category and resource type where each level is broken down until it is small enough to be used in conjunction with the WBS to plan work
- Also contains calculations for cost buildup

## Considerations When Creating the RBS:

- Parents / Groupings
- Elements of Cost (i.e., Labor, ODC)
- Burden Pools (similar buildups for ease of maintenance)



| Resource | Description |
|---|---|
| Example RBS | Company Level |
| LABOR | Labor |
| ENGINEER | Engineering |
| ASTRO | Astonomers |
| CHEMENG | Chemical Engineer |
| DRAFT | Draftsmen |
| EENG | Electrical Engineers |
| ERGENG | Ergonomic Engineers |
| MANAGE | Management |
| SENG | Structural Engineers |
| SYSAN | Systems Analysis |
| TECH | Technicians |
| MANUFAC | Manufacturing |
| QUALITY | Quality Control |
| ODC | Other Direct Costs |
| CONSULT | Consultants |
| RELOC | Relocation |
| NEWCODE | |
| TRVL | Travel |
| MATL | Material |
| SUB1 | Subcontract for part #233 |
| SUB2 | Subcontract for part #4857 |

Image Source: EVM Tool

IMPLEMENTATIONS

# Resources

## Considerations When Creating the RBS (cont.)

- Labor Category vs Named Resource
  - Labor category levels vs blended
  - Using both for different classes
  - Matching accounting
- How to include subcontractor resources
  - Company
  - Element of Cost
  - Vendor Employee ID (if in timesheet system)
- Whether Accruals require additional resources or use existing

| Resource | Parent |
|---|---|
| Systems Engineering | Engineering |
| Sys Engineer IV | Systems Engineering |
| Sys Engineer III | Systems Engineering |
| Sys Engineer II | Systems Engineering |

| Resource | Parent |
|---|---|
| Systems Engineer | Engineering |
| Electrical Engineer | Engineering |
| Developer | Engineering |

| Resource | Parent |
|---|---|
| Actuals | RBS |
| Ameen, Bob | Engineering |
| Johnikin, Kelsey | Engineering |

| Period | Resource | Accrued Amount |
|---|---|---|
| 9/30/2021 | Systems Engineer | $1,000.00 |
| 9/30/2021 | Project Control | $400.00 |

| Period | Resource | Accrued Amount |
|---|---|---|
| 9/30/2021 | Labor Accrual | $1,400.00 |

# Rates

## Direct Rates

- Proposed Rates
- Generic rates based on benchmark data
- Blended actual rates

## Indirect Rates

- Target rates
- Actuals
- Reconciliation of indirect rates

## Escalation

- Determining rate and where it is applied

| WBS | BOE | Resource | Rate | Hours |
|---|---|---|---|---|
| 1.1.1 | 12 | Cyber Engineer IV | $175.00 | 240.0 |
| 1.1.1 | 12 | Cyber Engineer III | $155.00 | 240.0 |

| Name | Labor Category | Hourly |
|---|---|---|
| Employee 1 | Sys Engineer IV | 65.00 |
| Employee 2 | Sys Engineer III | 57.00 |
| Employee 3 | Sys Engineer II | 62.00 |
| Employee 4 | Systems Engineer | 48.00 |
| Employee 5 | Systems Engineer | 77.00 |
| Employee 6 | Sys Engineer V | 95.00 |
| | Blended: Systems Engineer: | 67.33 |

| OH | 30% | 30% | 30% | 30% | 30% | 30% | 30% | 30% | 30% | 30% | 30% | 20% |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Period | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Direct | $1,000 | $1,000 | $1,000 | $1,000 | $1,000 | $1,000 | $1,000 | $1,000 | $1,000 | $1,000 | $1,000 | $1,000 |
| OH | $300 | $300 | $300 | $300 | $300 | $300 | $300 | $300 | $300 | $300 | $300 | $200 |
| adjustment | | | | | | | | | | | | -$1,100 |

IMPLEMENTATIONS

# Rates

## Cobra Rate Requirements

- Rate Set Name
- Rate Value and Effective Date
- All Direct and Indirect Rates in same file

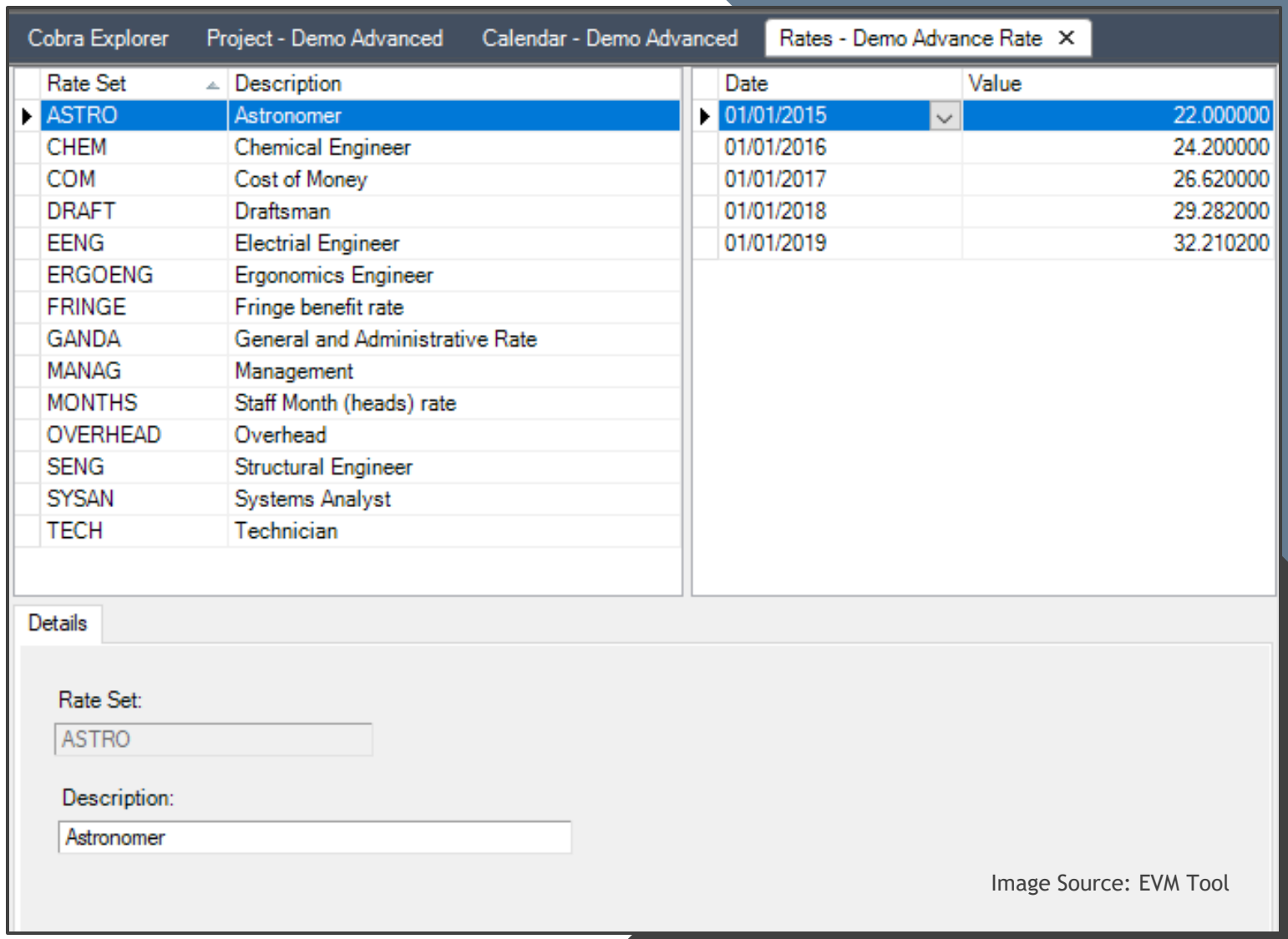


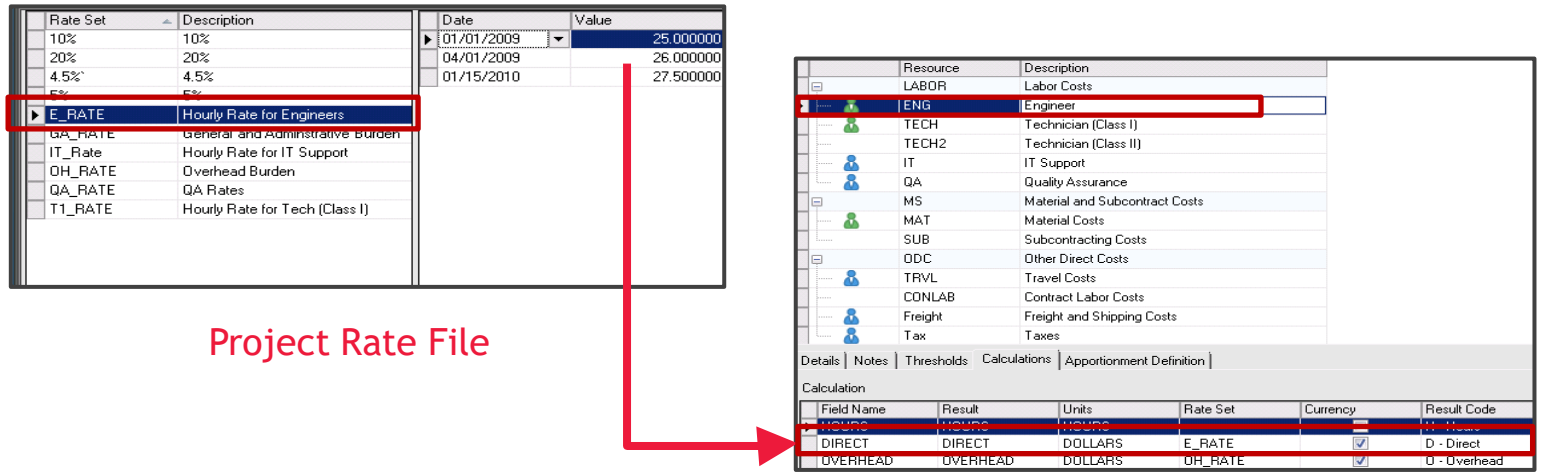

Image Source: EVM Tool

IMPLEMENTATIONS

# Calculations

## Relationship to Resources and Rate Files

- Rate File Contains the Rate sets and Rate table values that are used in the actual Resource Calculation.
- The resource file contains the calculation and based on the Rate File selected will determine the values used in Cobra to calculate to total dollars.
- Ensure that Cobra calculations match how your accounting system loads costs based on Pools, etc.




Project Rate File

Project Resource File

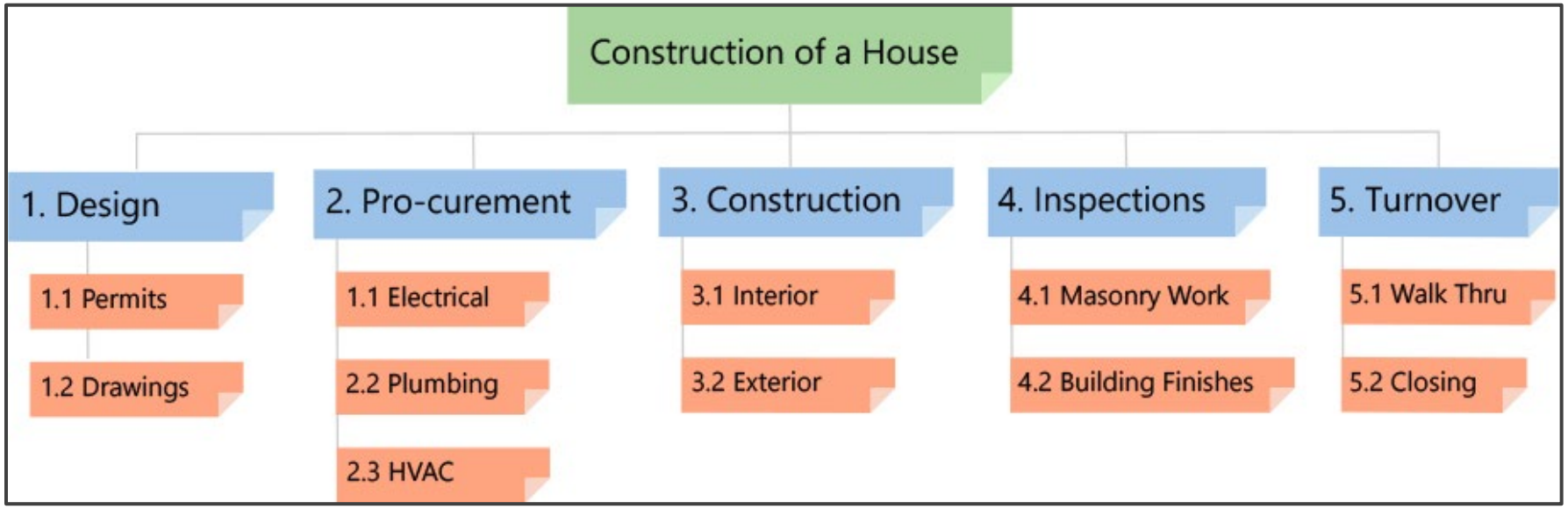
Image Source: EVM Tool

IMPLEMENTATIONS

# Codes

## WBS

- Product oriented
- Includes all work
- Should be decomposed to include sufficient level of detail
- The lowest level doesn't have to be consistent



IMPLEMENTATIONS

# Codes

## How to Structure the WBS Numbering Convention?

- **Punctuated Significant:** A parent/child relationship is defined by a character (e.g., Period) that separates each level in the structure
- **Non-Significant:** The parent/child relationship is not apparent by reading the code. A parent column may be added to the transfer file to define a hierarchy
- **Fixed Form Significant:** The parent/child relationship is defined but no punctuation is necessary. The users specify the number of levels and number of characters at each level in the wizard

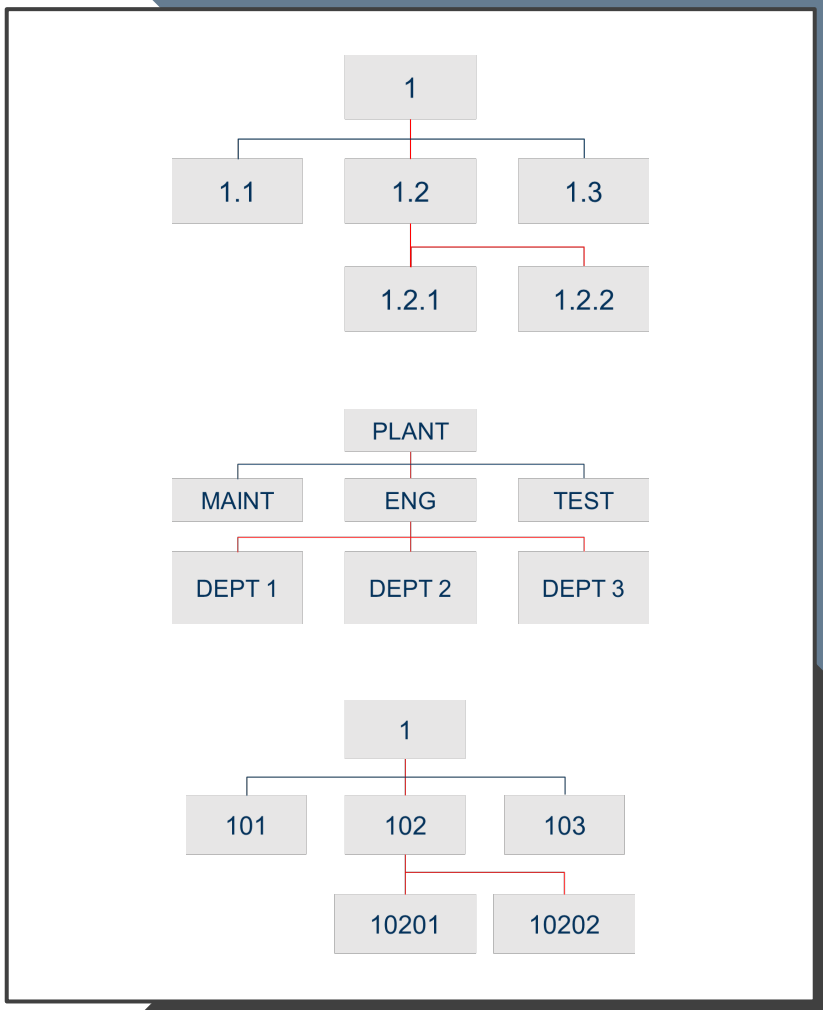



Image Source: Deltek Cobra

# Codes

## WBS Considerations

- Given a CWBS or Mil Standard to use?
- What is a sufficient level for this project?
- Understanding the scope to define it within the WBS (create a WBS Dictionary)

| WBS # | Level 1 | Level 2 | Level 3 | Level 4 |
|---|---|---|---|---|
| 1.0 | Electronics/Avionics/Generic Systems | | | |
| 1.1 | | Prime Mission Product (PMP) 1...n (Specify) | | |
| 1.1.1 | | | PMP Integration, Assembly, Test, and Checkout | |
| 1.1.2 | | | PMP Subsystem 1...n (Specify) | |
| 1.1.2.1 | | | | Subsystem Integration, Assembly, Test, and Checkout |
| 1.1.2.2 | | | | Subsystem Hardware 1...n (Specify) |
| 1.1.2.3 | | | | Subsystem Software Release 1...n (Specify) |
| 1.1.3 | | | PMP Software Release 1...n (Specify) | |
| 1.1.3.1 | | | | Computer Software Configuration Item (CSCI) 1...n (Specify) |
| 1.1.3.2 | | | | PMP Software Integration, Assembly, Test, and Checkout |
| 1.2 | | Platform Integration, Assembly, Test, and Checkout | | |
| 1.3 | | Systems Engineering | | |
| 1.3.1 | | | Software Systems Engineering | |
| 1.3.2 | | | Integrated Logistics Support (ILS) Systems Engineering | |
| 1.3.3 | | | Cybersecurity Systems Engineering | |
| 1.3.4 | | | Core Systems Engineering | |
| 1.3.5 | | | Other Systems Engineering 1...n (Specify) | |
| 1.4 | | Program Management | | |
| 1.4.1 | | | Software Program Management | |
| 1.4.2 | | | Integrated Logistics Support (ILS) Program Management | |
| 1.4.3 | | | Cybersecurity Management | |
| 1.4.4 | | | Core Program Management | |
| 1.4.5 | | | Other Program Management 1...n (Specify) | |
| 1.5 | | System Test and Evaluation | | |
| 1.5.1 | | | Developmental Test and Evaluation | |
| 1.5.1.1 | | | | Engineering Development Test |
| 1.5.1.2 | | | | System Qualification Test |
| 1.5.1.3 | | | | Cybersecurity Test and Evaluation |
| 1.5.1.4 | | | | Other DT&E Tests 1...n (Specify) |
| 1.5.2 | | | Operational Test and Evaluation | |
| 1.5.2.1 | | | | Cybersecurity Test and Evaluation |
| 1.5.2.2 | | | | Other OT&E Tests 1...n (Specify) |
| 1.5.3 | | | Live Fire Test and Evaluation | |
| 1.5.4 | | | Mock-ups/System Integration Labs (SILs) | |
| 1.5.5 | | | Test and Evaluation Support | |
| 1.5.6 | | | Test Facilities | |
| 1.6 | | Training | | |
| 1.6.1 | | | Equipment | |
| 1.6.1.1 | | | | Operator Instructional Equipment |
| 1.6.1.2 | | | | Maintainer Instructional Equipment |
| 1.6.2 | | | Services | |
| 1.6.2.1 | | | | Operator Instructional Services |
| 1.6.2.2 | | | | Maintainer Instructional Services |
| 1.6.3 | | | Facilities | |
| 1.6.4 | | | Training Software 1...n (Specify) | |
| 1.7 | | Data | | |
| 1.7.1 | | | Data Deliverables 1...n (Specify) | |

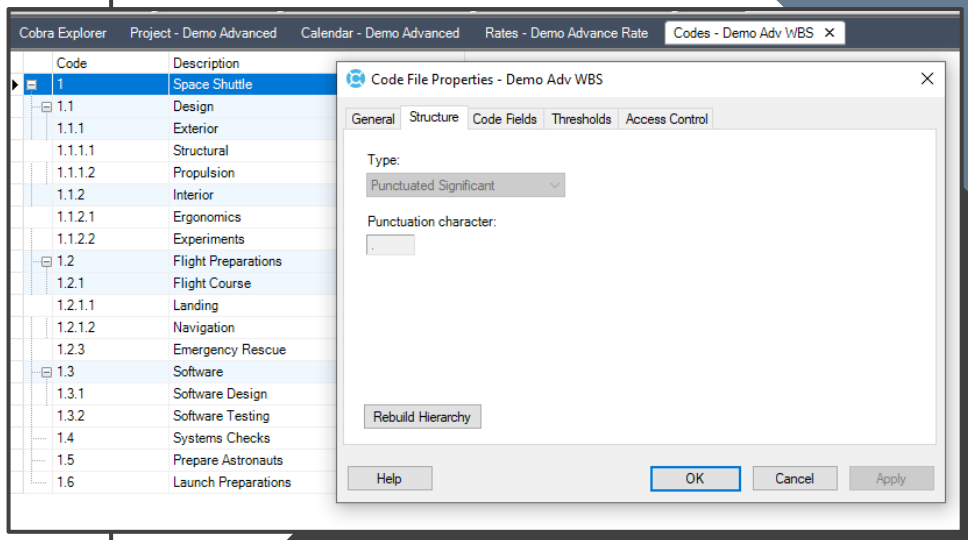



Image Source: EVM Tool

IMPLEMENTATIONS

# Project Structure

## Control Accounts and Work Packages

- Cobra allows for up to 3 CA defining fields
- Almost always WBS, typically OBS used also

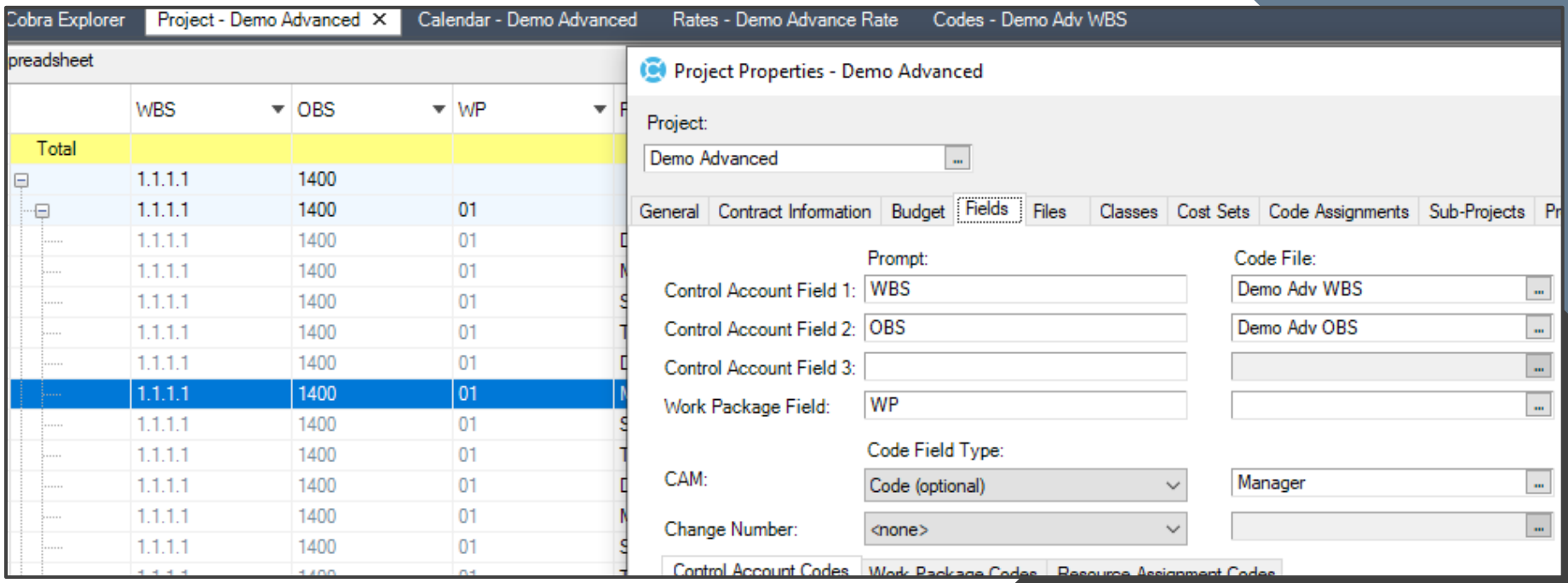


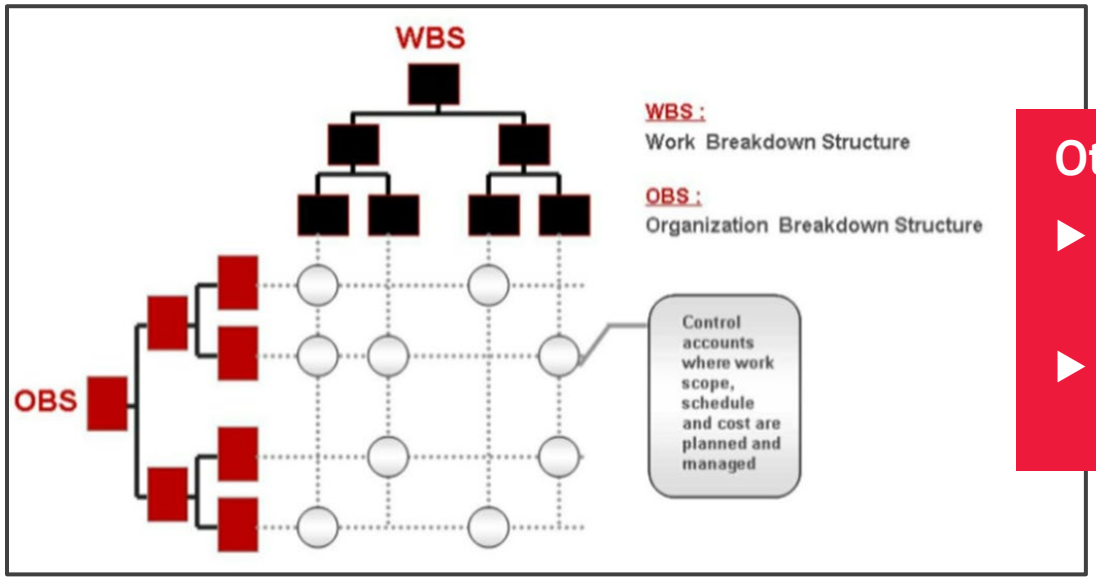

Image Source: EVM Tool

IMPLEMENTATIONS

# Project Structure

## Control Accounts and Work Packages

- The level where scope, schedule, and cost should be managed
- If established to low, work packages don't provide much added value
- If established to high, there is decrease visibility to work scope
- Often just a level of the WBS




## Other Considerations

- Mixing large material purchases with labor
- Overall dollar value assigned to CAMs in the RAM

Image Source:
https://images.app.goo.gl/HR7pb8crLtP5Sedg7

IMPLEMENTATIONS

# Work Packages

## Work Packages

- Subdivision of a Control Account
- Place where work is planned, progress is measured, and earned value calculated
- Is clearly distinguished from other work with its own clearly defined scope
- Has start and finish dates
- Actuals can be recorded at this level (if not at the Control Account)

## Considerations

- Durations and size
- Mixing LOE with discrete work
- Mixing large material purchases with labor
- Cobra has many Progress Techniques available (EVTs)

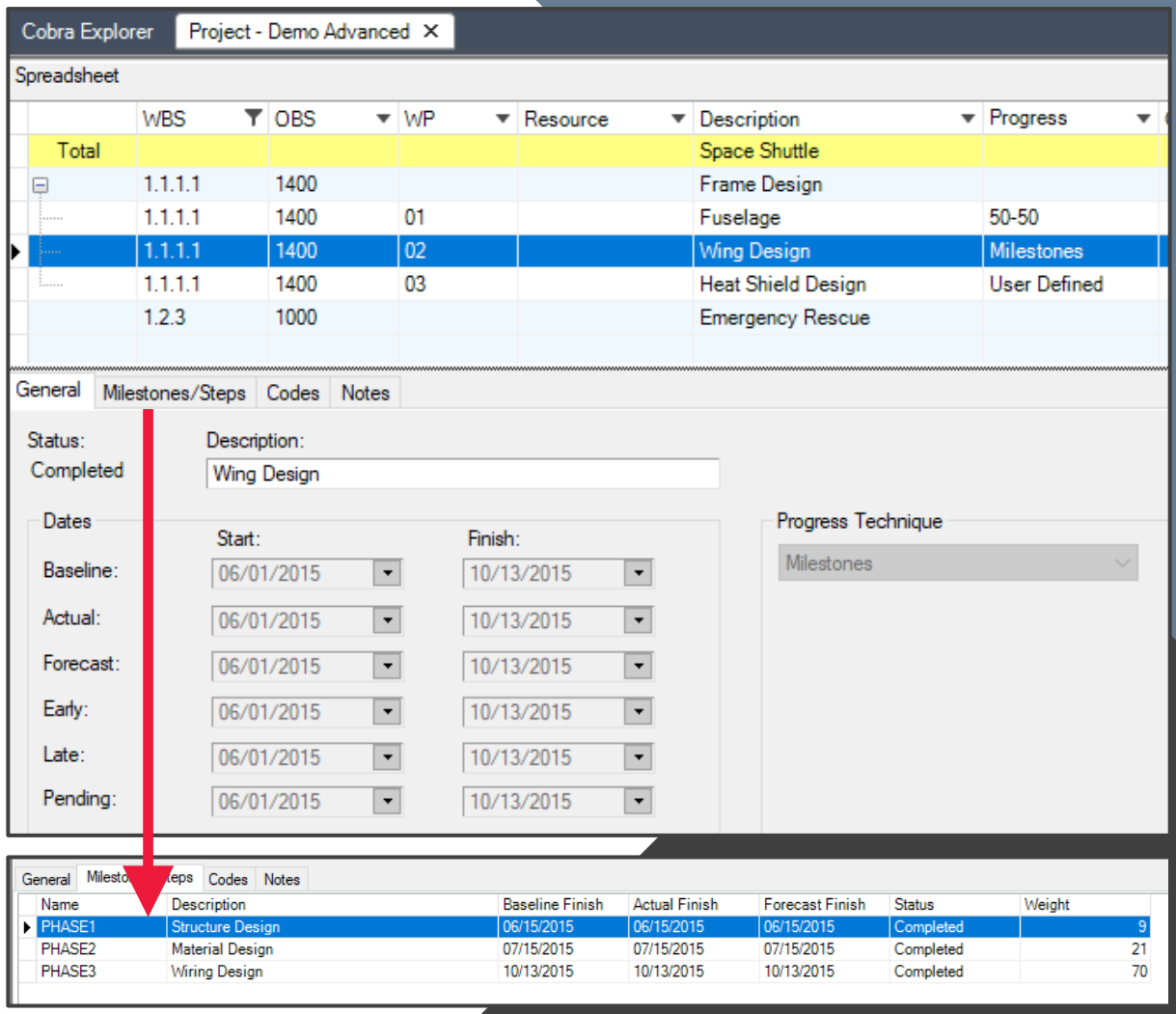



Image Source: EVM Tool

IMPLEMENTATIONS

# Scheduling

## Developing an IMS

- Start with High level schedule / Major milestones or standard WBS
- Decompose further into manageable activities

## Are Levels Defined in the IMS?

- Control Account
- Work Package
- Milestone or Task
- Schedule Visibility Tasks (SVT)

| | *CA | *WP | *EVT | *CWBS | Name | % Work Complete | Duration | Predecessi |
|---|---|---|---|---|---|---|---|---|
| 1 | | | | | **Sample System IMS** | **99%** | **2522 d** | |
| 2 | | | | | **Program Milestones** | **0%** | **2462 d** | |
| 94 | | | | | **Government/Customer Furnished (GFE/CFE)** | **0%** | **1538 d** | |
| 286 | | | | | **Inter-Divisional Dependencies** | **100%** | **882 d** | |
| 301 | | | | **1.1.4.01** | **System** | **99%** | **2462 d** | |
| 302 | | | | **1.1.4.01.01** | **Prime Mission Product** | **99%** | **2462 d** | |
| 303 | | | | **1.1.4.01.01.01** | **Engineering Control System (ECS)** | **100%** | **2462 d** | |
| 304 | **44** | | | **1.1.4.01.01.01** | **ECS HW** | **100%** | **2462 d** | |
| 305 | **44** | **14382** | | **1.1.4.01.01.01** | **Console Design** | **100%** | **378 d** | |
| 306 | 44 | 14382 | MWPC | 1.1.4.01.01.01 | Prepare Preliminary Drawings of console structure | 100% | 34 d | 15 |
| 307 | 44 | 14382 | MWPC | 1.1.4.01.01.01 | Conduct Console Finite Element Analysis (FEA) | 100% | 82 d | 15,1476 |
| 308 | 44 | 14382 | MWPC | 1.1.4.01.01.01 | Prepare Final detail drawings of console structure | 100% | 69 d | 1476,15 |
| 309 | 44 | 14382 | MWPC | 1.1.4.01.01.01 | Produce 3D models of console structure | 100% | 5 d | 1476,15 |
| 310 | 44 | 14382 | MWPC | 1.1.4.01.01.01 | Command Module Console Framework Build | 100% | 189 d | 1556,15 |
| 311 | **44** | **45** | | **1.1.4.01.01.01** | **ECS HW Preliminary Design** | **100%** | **2116 d** | |
| 312 | 44 | 45 | MWPC | 1.1.4.01.01.01 | Perform ECS HW Preliminary Design Engineering | 100% | 20 d | 19,170 |
| 313 | 44 | 45 | MWPC | 1.1.4.01.01.01 | Conduct ECS HW Preliminary Information Assurance Review of Design | 100% | 1 d | 312 |
| 314 | 44 | 45 | MWPC | 1.1.4.01.01.01 | Perform Trade Studies and Prepare ECS HW PDR Purchase Technical Specifications | 100% | 22 d | 19 |
| 315 | 44 | 45 | MWPC | 1.1.4.01.01.01 | Prepare ECS HW PDR Preliminary Drawings/Sketches | 100% | 100 d | 4 |
| 316 | **44** | **50** | | **1.1.4.01.01.01** | **ECS HW Detail Design** | **100%** | **623 d** | |
| 317 | 44 | 50 | MWPC | 1.1.4.01.01.01 | Perform ECS HW Detail Design Engineering | 100% | 262.5 d | 164FF,165FF |
| 318 | 44 | 50 | MWPC | 1.1.4.01.01.01 | Update ECS HW CDR Craft Systems Drawing | 100% | 97 d | 20 |
| 319 | 44 | 50 | MWPC | 1.1.4.01.01.01 | RESTART: Update ECS HW CDR Craft Systems Drawing | 100% | 26 d | 13,318,15 |
| 320 | **44** | **53** | | **1.1.4.01.01.01** | **ECS HW CDR Block Diagrams** | **100%** | **312 d** | |
| 321 | 44 | 53 | MWPC | 1.1.4.01.01.01 | Prepare ECS HW Block Diagrams - DAUs (F.3) | 100% | 2 d | 103,105 |
| 322 | 44 | 53 | MWPC | 1.1.4.01.01.01 | Review, Comment, Adjudicate TM&LS Data - Battle Override ICD | 100% | 2 d | 112 |
| 323 | 44 | 53 | MWPC | 1.1.4.01.01.01 | Prepare ECS HW Block Diagrams - Battle Override Panel | 100% | 45 d | 105,322FF |

Image Source: EVM Tool

IMPLEMENTATIONS

# Scheduling

## Resource Loaded Schedule

- Is it necessary for my project?
- Leveling resources
- Top-down vs bottoms up planning

## Integration with EV Engine

- Fields needed (CA, WP, EVT, Milestone IDs, Milestone Weights)

## Updating Status

- Actuals, remaining duration
- Let the network do the math!

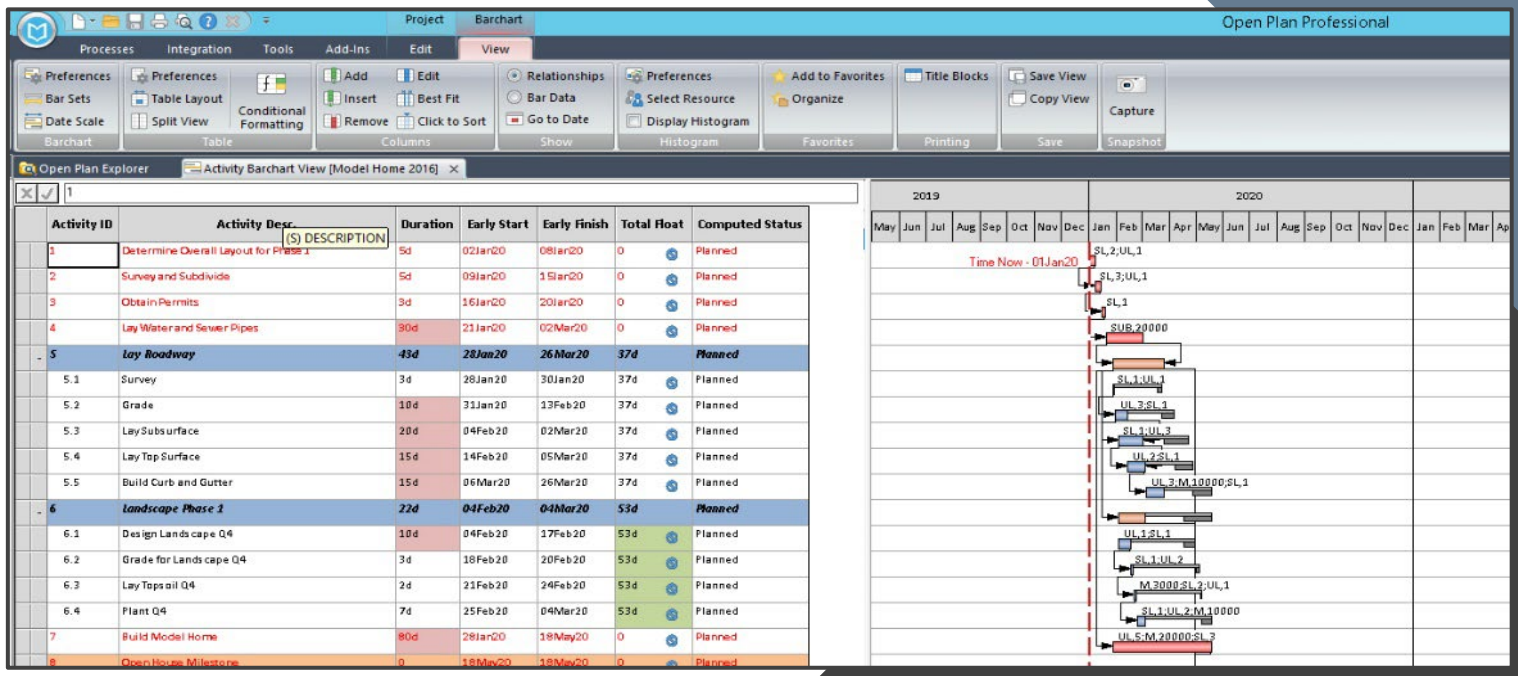



Image Source: EVM Tool

IMPLEMENTATIONS

# Classes

## What's the Difference?

- Classes – Tool to segregate cost records / resource assignments (Budget, Forecast, Actuals, Earned)
- Cost Sets – Group related classes together for reporting

## Uses for Classes

- Accruals
- Unbillable/Unallowable
- Tracking modifications, Unapproved Budget
- Internal vs External reporting
  - Different rates can be applied to the same inputs (i.e., hours) for T&M vs Internal Cost Buildups

| Cost Class | Customer Reporting Cost Set | Internal Reporting Cost Set |
|---|---|---|
| Actuals | x | x |
| Accruals | x | x |
| Unallowables | | x |

IMPLEMENTATIONS

# Classes

## What Level?

- Classes can be set to either CA or WP levels, depending on your needs
- Potential Uses for CA level:
  - Actuals
  - Planning Packages
- WP Level:
  - Budgeting
  - Earned
  - Detailed FC
  - Actuals (if available

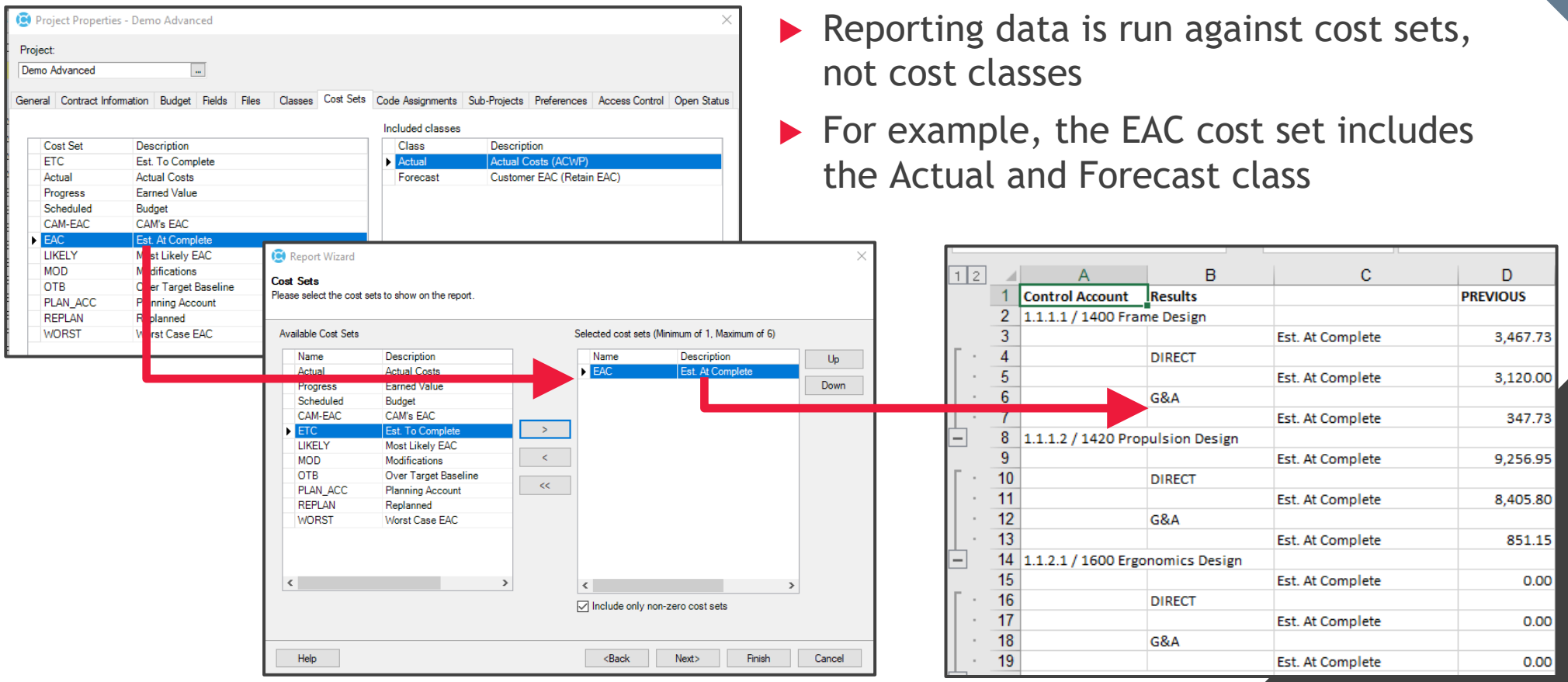
Cobra Explorer | Project - Demo Advanced

Spreadsheet | Status Date:11/30/2015 | Time-phase

| | WBS | OBS | WP | Resource | Description | Class | Total | 6/30/2015 | 07/31/2015 | 08/31/2015 |
|---|---|---|---|---|---|---|---|---|---|---|
| Total | | | | | Space Shuttle | | 459,840.49 | 69,786.90 | 82,688.93 | 36,856.29 |
| | 1.1.1.1 | 1400 | | | Frame Design | | 236,410.64 | 69,786.90 | 82,688.93 | 36,856.29 |
| | 1.1.1.1 | 1400 | 01 | | Fuselage | | 92,735.48 | 36,115.79 | 48,421.48 | |
| | 1.1.1.1 | 1400 | 01 | DRAFT | Draftsmen | Actual | 6,102.00 | 2,034.00 | 4,068.00 | 0.00 |
| | 1.1.1.1 | 1400 | 01 | MANAGE | Management | Actual | 7,078.32 | 3,145.92 | 3,932.40 | 0.00 |
| | 1.1.1.1 | 1400 | 01 | SENG | Structural Engineers | Actual | 14,060.60 | 5,717.80 | 8,342.80 | 0.00 |
| | 1.1.1.1 | 1400 | 01 | TECH | Technicians | Actual | 7,797.00 | 2,712.00 | 5,085.00 | 0.00 |
| | 1.1.1.1 | 1400 | 01 | DRAFT | Draftsmen | Budget | 5,429.83 | 2,778.03 | 2,651.80 | |
| | 1.1.1.1 | 1400 | 01 | MANAGE | Management | Budget | 5,248.84 | 2,685.43 | 2,563.41 | |
| | 1.1.1.1 | 1400 | 01 | SENG | Structural Engineers | Budget | 11,382.83 | 5,823.78 | 5,559.05 | |
| | 1.1.1.1 | 1400 | 01 | TECH | Technicians | Budget | 6,787.28 | 3,472.53 | 3,314.75 | |
| | 1.1.1.1 | 1400 | 01 | DRAFT | Draftsmen | Earned | 5,429.83 | 1,457.28 | 2,428.80 | |
| | 1.1.1.1 | 1400 | 01 | MANAGE | Management | Earned | 5,248.84 | 1,412.45 | 2,347.84 | |
| | 1.1.1.1 | 1400 | 01 | SENG | Structural Engineers | Earned | 11,382.83 | 3,054.97 | 5,091.63 | |
| | 1.1.1.1 | 1400 | 01 | TECH | Technicians | Earned | 6,787.28 | 1,821.60 | 3,036.00 | |
| | 1.1.1.1 | 1400 | 01 | DRAFT | Draftsmen | Forecast | 0.00 | | | |
| | 1.1.1.1 | 1400 | 01 | MANAGE | Management | Forecast | 0.00 | | | |
| | 1.1.1.1 | 1400 | 01 | SENG | Structural Engineers | Forecast | 0.00 | | | |
| | 1.1.1.1 | 1400 | 01 | TECH | Technicians | Forecast | 0.00 | | | |
| | 1.1.1.1 | 1400 | 02 | | Wing Design | | 95,915.85 | 12,402.91 | 16,005.15 | 34,939.81 |
| | 1.1.1.1 | 1400 | 03 | | Heat Shield Design | | 47,759.31 | 21,268.20 | 18,262.30 | 1,916.48 |
| | 1.2.3 | 1000 | | | Emergency Rescue | | 223,429.85 | | | |
| | 1.2.3 | 1000 | | TECH | Technicians | PA | 193,429.85 | | | |
| | 1.2.3 | 1000 | | TRVL | Travel | PA | 30,000.00 | | | |
| | | | | | | | 0.00 | | | |

Image Source: EVM Tool

# Cost Sets




- Reporting data is run against cost sets, not cost classes
- For example, the EAC cost set includes the Actual and Forecast class

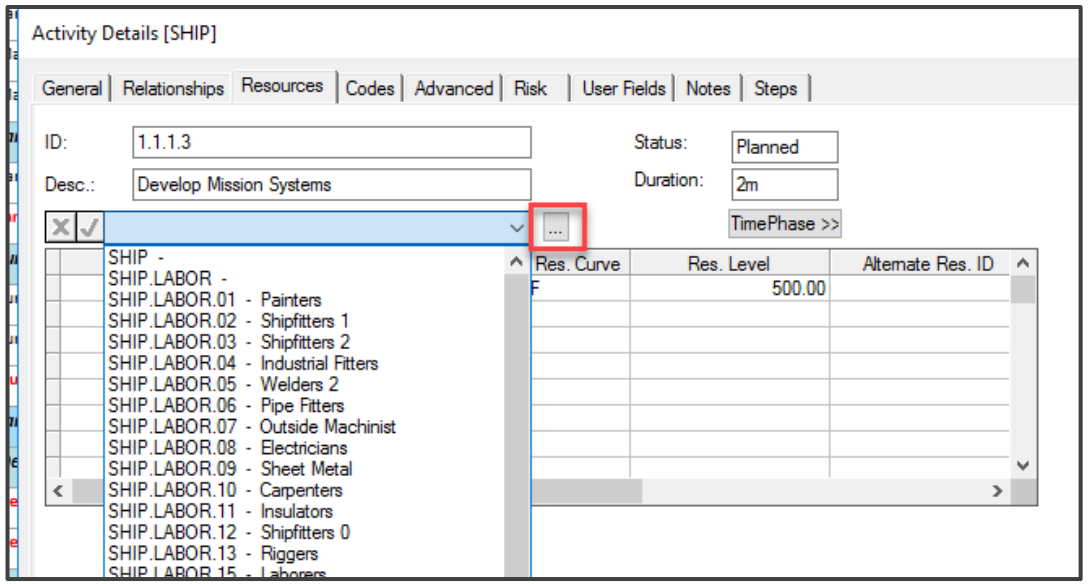
Image Source: EVM Tool

IMPLEMENTATIONS

# Project Data

## Where Is Your Budget Coming From?

- Resource loaded IMS
- Pricing File / BOE from proposal
- Starting from scratch with a target value but no supporting documentation?



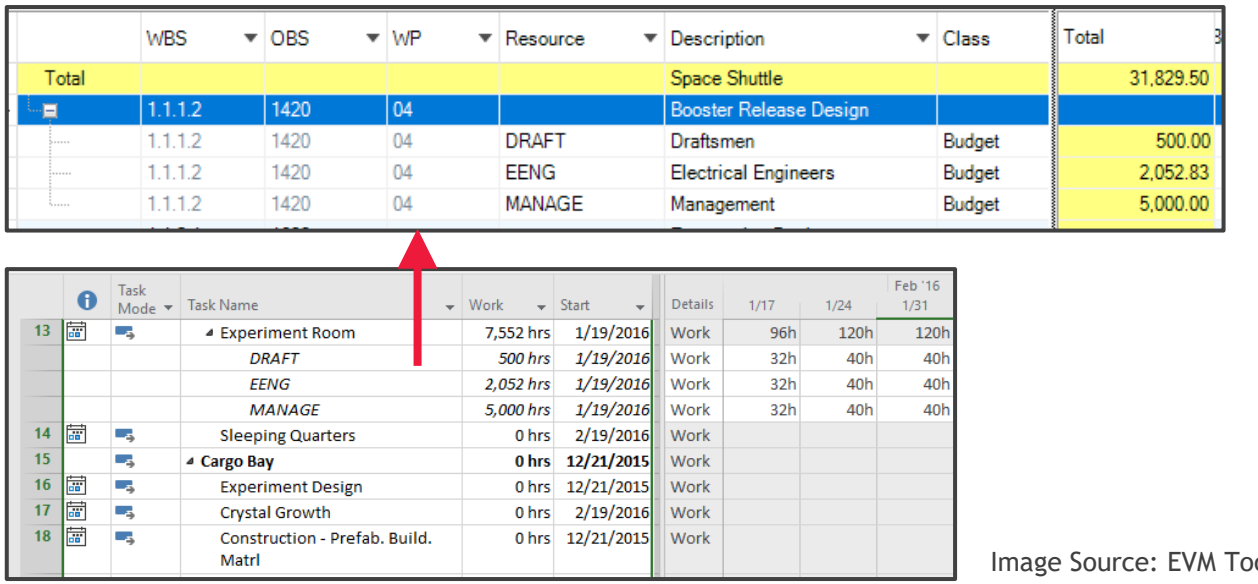




Image Source: EVM Tool

IMPLEMENTATIONS

# Project Data

## Loading IMS Resource Data Into Cobra Via Integration Wizard

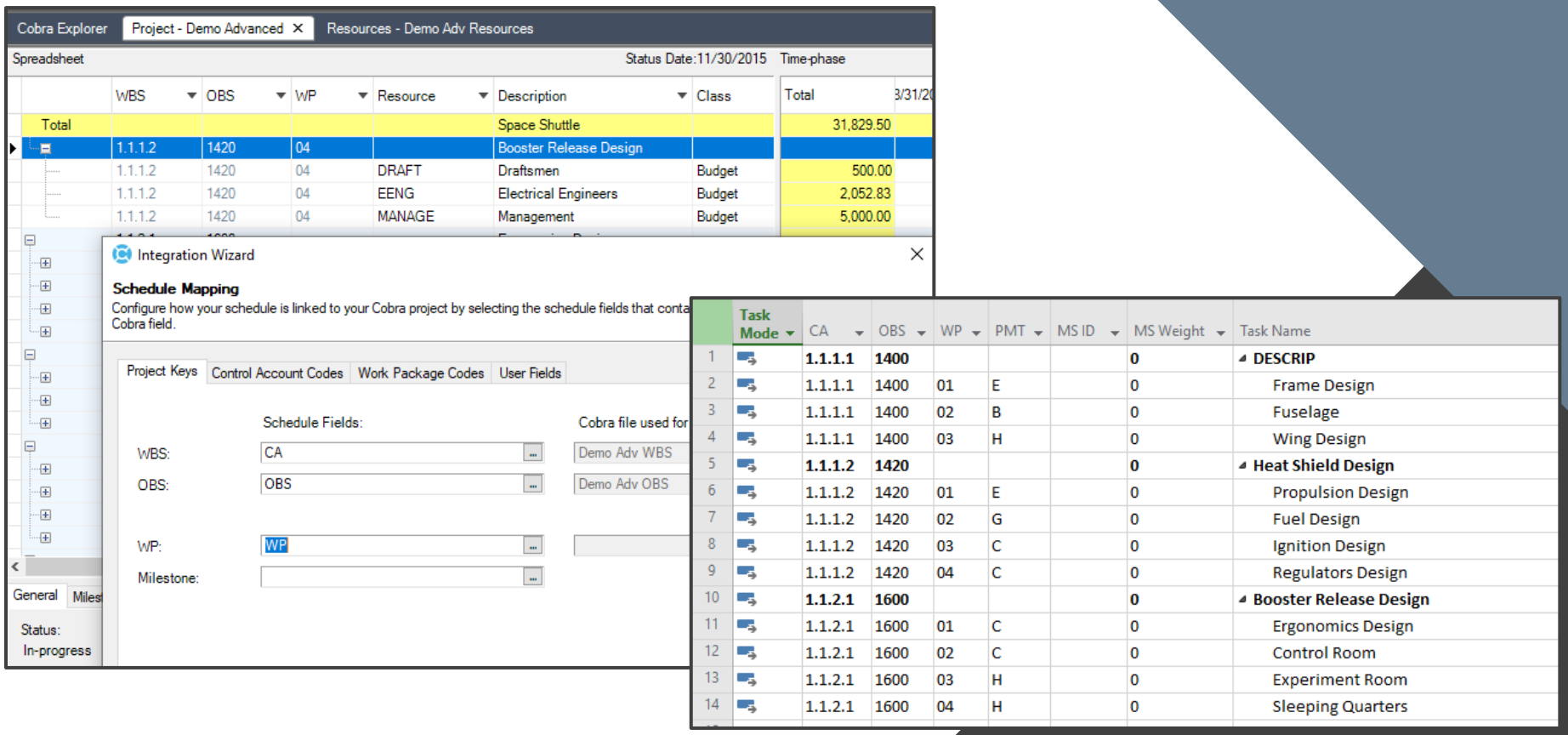



Image Source: EVM Tool

IMPLEMENTATIONS

# Project Data

## Loading From Flat File (Pricing Sources, BOE, etc.)

- Considerations: ensure dates are synced since IMS not being used
  - i.e., From Date, To Date are within Baseline Dates
  - Supports program milestones

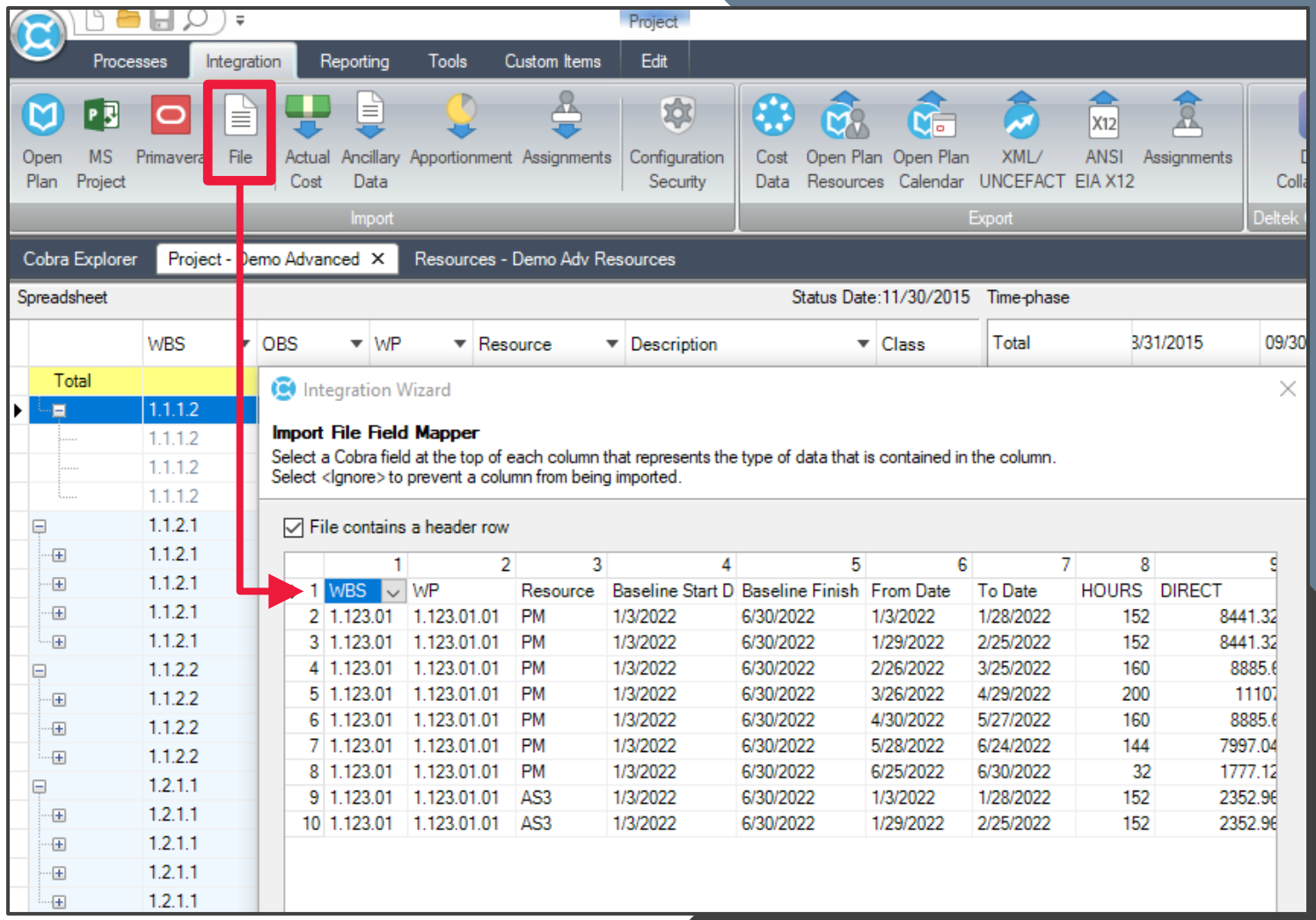


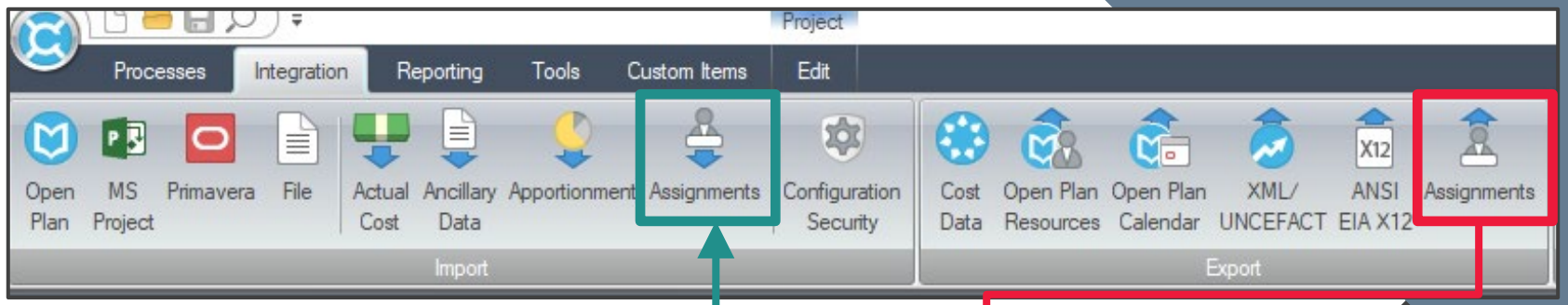

Image Source: EVM Tool

IMPLEMENTATIONS

# Project Data

## How Will You Update Forecast?

- Assignment Export/Import (shown)
- Flat File
- Directly within Cobra Interface
- via integrated tools such as PM Compass workflow




| | A | B | C | D | E | F | G | H | I | J |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Project: Demo Advanced: Space Shuttle | | | Class: Forecast | | 06/30/2015 | 07/31/2015 | 08/31/2015 | 09/30/2015 | 10/31/2015 |
| 2 | Control Account | Work Package | Resource | Start | Finish | | | | | |
| 3 | 1.1.1.1 / 1400 : Frame Design (Closed) | | | 01-Jun-15 | 13-Oct-15 | | | | | |
| 4 | | 01 : Fuselage (Closed) | | 01-Jun-15 | 12-Jul-15 | | | | | |
| 5 | | | DRAFT | HOURS | | 163.72 | 156.28 | | | |
| 6 | | | MANAGE | HOURS | | 81.86 | 78.14 | | | |
| 7 | | | SENG | HOURS | | 179.07 | 170.93 | | | |
| 8 | | | TECH | HOURS | | 204.65 | 195.35 | | | |
| 9 | | 02 : Wing Design (Closed) | | 01-Jun-15 | 13-Oct-15 | | | | | |
| 10 | | | DRAFT | HOURS | | 32.29 | 30.83 | 33.76 | 32.29 | 30.83 |
| 11 | | | MANAGE | HOURS | | 32.29 | 30.83 | 33.76 | 32.29 | 30.83 |
| 12 | | | SENG | HOURS | | 92.02 | 74.34 | 81.43 | 77.87 | 74.34 |
| 13 | | | TECH | HOURS | | 46.49 | 195.59 | 141.38 | 112.32 | 54.22 |
| 14 | | 03 : Heat Shield Design (Closed) | | 01-Jun-15 | 13-Jul-15 | | | | | |
| 15 | | | DRAFT | HOURS | | 103.79 | 196.21 | | | |
| 16 | | | MANAGE | HOURS | | 51.20 | 28.80 | | | |
| 17 | | | SENG | HOURS | | 98.40 | 21.60 | | | |
| 18 | | | TECH | HOURS | | 191.99 | 108.01 | | | |

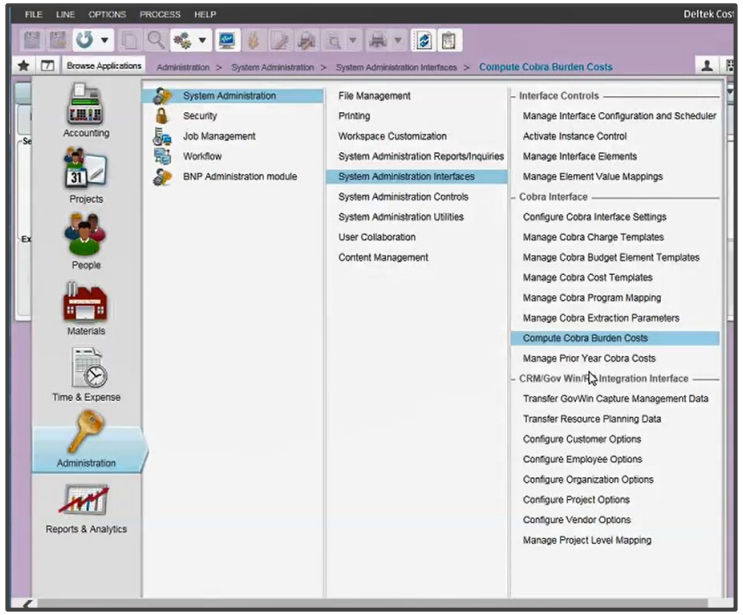
Image Source: EVM Tool

IMPLEMENTATIONS

# Project Data

- How will you import Actual Costs?
  - Flat File (.csv) from Accounting system
  - Costpoint to Cobra Connection
- Do your Accounting Project IDs match CA or WPs?

| | A | B | C | D | E | F |
|---|---|---|---|---|---|---|
| 1 | WBS | WP | RESOURCE | Cost Date | Hours | Direct |
| 2 | 1.123.01 | 1.123.01.01 | 33532 | 1/28/2022 | 140 | 7774.9 |
| 3 | 1.123.01 | 1.123.01.01 | 93469 | 1/28/2022 | 152 | 2352.96 |
| 4 | 1.123.01 | 1.123.01.01 | 30757 | 1/28/2022 | 60 | 845.4 |
| 5 | 1.123.01 | 1.123.01.01 | 51848 | 1/28/2022 | 160 | 8067.2 |
| 6 | 1.123.01 | 1.123.01.01 | TRVL | 1/28/2022 | | 300 |
| 7 | 1.123.01 | 1.123.01.02 | 41648 | 1/28/2022 | 25 | 704.5 |
| 8 | 1.123.01 | 1.123.01.02 | 69878 | 1/28/2022 | 40 | 1293.8 |
| 9 | 1.123.01 | 1.123.01.02 | 93366 | 1/28/2022 | 40 | 1286.2 |
| 10 | 1.123.02 | 1.123.02.01 | 96391 | 1/28/2022 | 40 | 2033.2 |
| 11 | 1.123.02 | 1.123.02.01 | 50236 | 1/28/2022 | 20 | 542.4 |
| 12 | 1.123.02 | 1.123.02.01 | 82768 | 1/28/2022 | 38 | 865.07 |



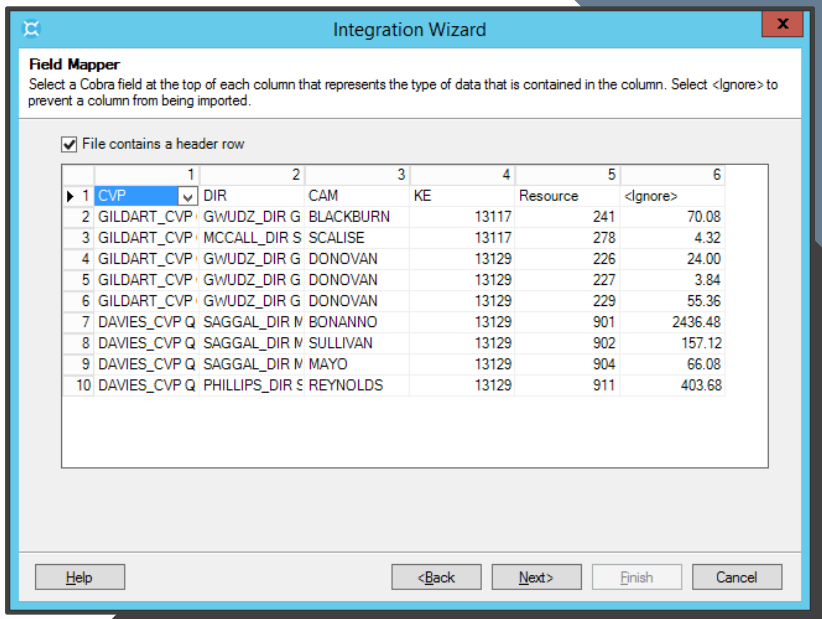




Image Source: EVM Tool

IMPLEMENTATIONS

# Status

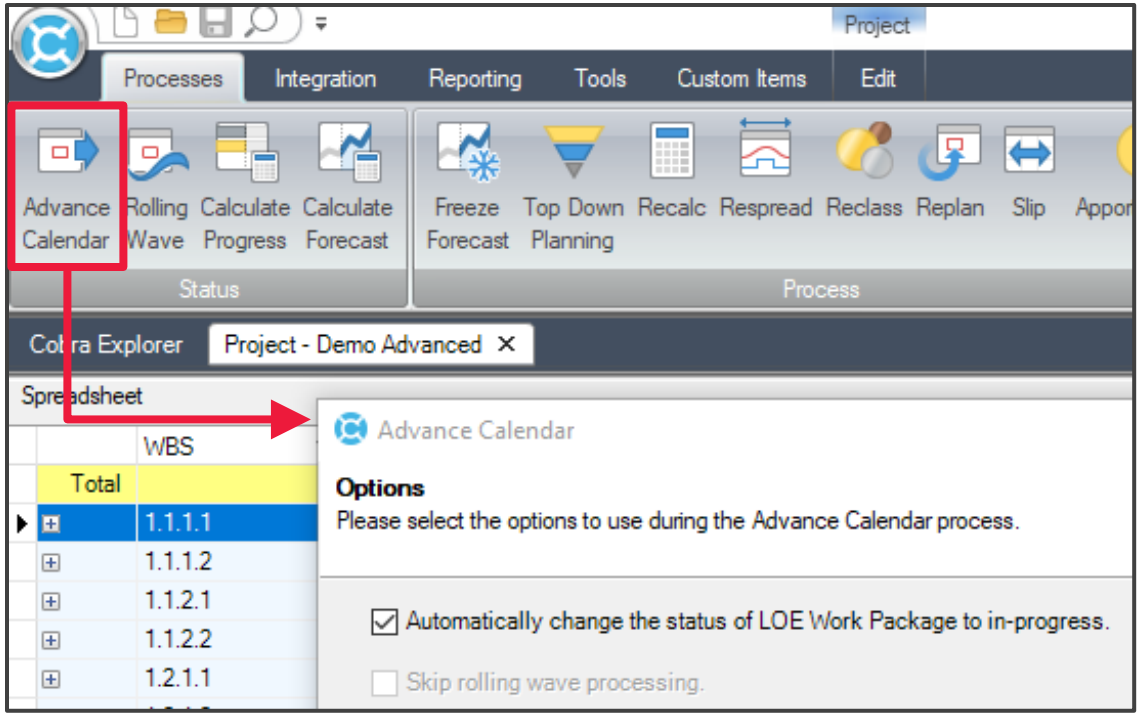



Image Source: EVM Tool

- How will you status your Project?
  - Integration with IMS file
  - Flat File
  - Directly within Cobra Interface
  - Via other tools such as PM Compass workflows
- What do you need to status Cobra?
  - % Complete
  - Actual Start / Finish
  - Forecast Start / Forecast Finish
  - Milestone date updates
- LOE activities
  - Can be contained within status files, or
  - Cobra can automatically status during Calendar advancement

IMPLEMENTATIONS

# Existing Projects

## Extraction

- Can you export all project data from existing tool (Budget, Performance, Actuals, Forecast)?
- Does data exist in spreadsheets?

## Formatting

- All data can be imported into Cobra via Integration wizard
- Headers on import files will vary depending on Cobra file type
  - Typically need CA/WP and dates at a minimum, resources for time-phased data

## Data Cleansing

- Is your hierarchy well maintained?
  - Do you have both Parent / Child elements that make up Control Accounts?
  - Are all levels present?
  - Are all Work Packages unique to a single CA?

IMPLEMENTATIONS

# Existing Projects

## Data Cleansing (cont.)

- Are your resource assignment dates contained within the WP baseline and forecast dates?
- Do you have leading or trailing 0's in your data?
- How were dates exported and formatted from legacy data?
- Do multiple assignments for the same resource exist within the same WP and class?
- Do you have EVTs mapped to appropriate Cobra codes, and do all WPs have them?

| Cobra Progress Technique | Cobra Code |
|---|---|
| Level of Effort | A |
| Milestone | B |
| Percent Complete | C |
| 50-50 | E |
| 0-100 | F |
| User Defined % | H |
| Planning Package | K |
| Calculated Apportioned | M |

| WBS | Element |
|---|---|
| 1.1 | Control Account |
| 1.2 | Control Account |
| 1.3 | Control Account |
| 1.3.1 | Control Account |

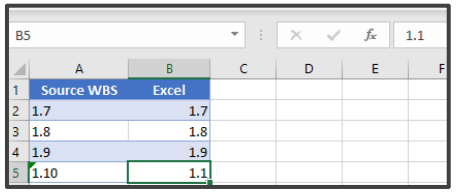



Image Source: EVM Tool

| WBS | WP | Resource | Baseline Start Date | Baseline Finish Date | From date | To date | Hours | Direct |
|---|---|---|---|---|---|---|---|---|
| 1.123.01 | 1.123.01.01 | PM | 1/3/2022 | 4/30/2022 | 1/3/2022 | 1/28/2022 | 152 | 8441.32 |
| 1.123.01 | 1.123.01.01 | PM | 1/3/2022 | 4/30/2022 | 1/29/2022 | 2/25/2022 | 152 | 8441.32 |
| 1.123.01 | 1.123.01.01 | PM | 1/3/2022 | 4/30/2022 | 2/26/2022 | 3/25/2022 | 160 | 8885.6 |
| 1.123.01 | 1.123.01.01 | PM | 1/3/2022 | 4/30/2022 | 3/26/2022 | 4/29/2022 | 200 | 11107 |
| 1.123.01 | 1.123.01.01 | PM | 1/3/2022 | 4/30/2022 | 4/30/2022 | 5/27/2022 | 160 | 8885.6 |
| 1.123.01 | 1.123.01.01 | PM | 1/3/2022 | 4/30/2022 | 5/28/2022 | 6/24/2022 | 144 | 7997.04 |
| 1.123.01 | 1.123.01.01 | PM | 1/3/2022 | 4/30/2022 | 6/25/2022 | 6/30/2022 | 32 | 1777.12 |

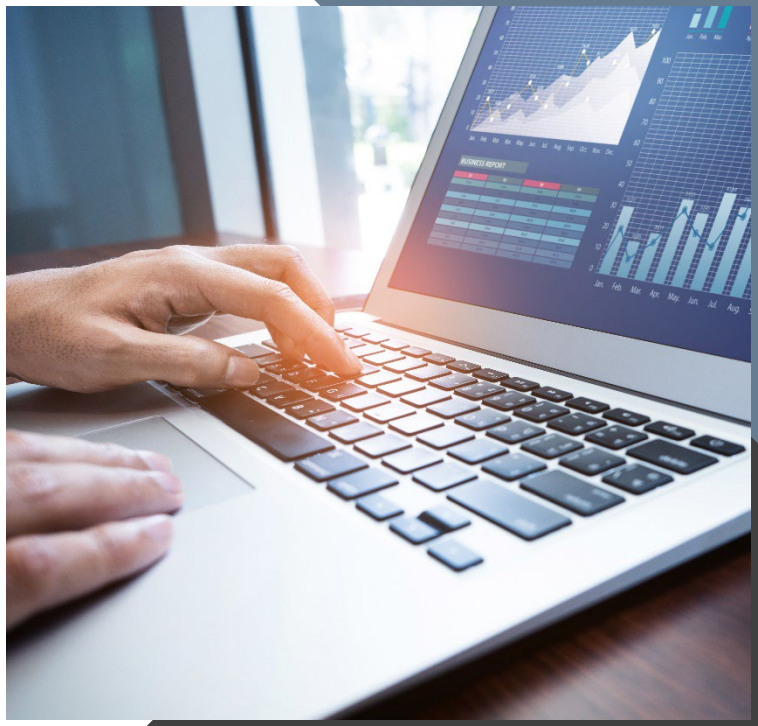
IMPLEMENTATIONS

# Existing Projects

## Time-Phasing

**How do you want to load your data into Cobra?**

- Historical (Budget, Forecast, Actuals)
  - Cumulative to date in prior period, latest month in current period
  - Load monthly data for current year
  - Load all periods
- Earned Value
  - Cobra does not readily import EV values
  - Cobra calculates EV based on Budget resources, which is not always available in legacy tools
  - Budget changes in the past can complicate reconciliation of prior EV values



IMPLEMENTATIONS

# Earned Value

| Calculate legacy ITD BCWP in prior Cobra period, then calculate BCWP by period going forward | | Load time-phased historical BCWP, with possible reversal and transition to Cobra budget resources in next period |
|---|---|---|
| ▶ Less migration effort<br>▶ Less clutter in the first period that EV is calculated | PROS | ▶ Access to historical data in Cobra<br>▶ Can place historical values in separate class to filter out in views |
| ▶ Lose access to historical EV<br>▶ Will need to reference other artifacts as needed for %completes, dates<br>▶ Potentially time consuming | CONS | ▶ Reversals and adjustments may be required by Cobra for in-progress WPs<br>▶ More data prep for migration<br>▶ SQL scripts are needed to complete the loading of time-phased EV data |

IMPLEMENTATIONS

# Reporting

## Out of the Box

- Legacy IPMR Formats 1- 5
- 533M and 533 Q
- Timephased
- Control Account Plan (CAP)
- Work Authorization Documents (WAD)
- Responsibility Assignment Matrix (RAM)

## Exports

- IPMDAR
- Deltek Acumen, wInsight

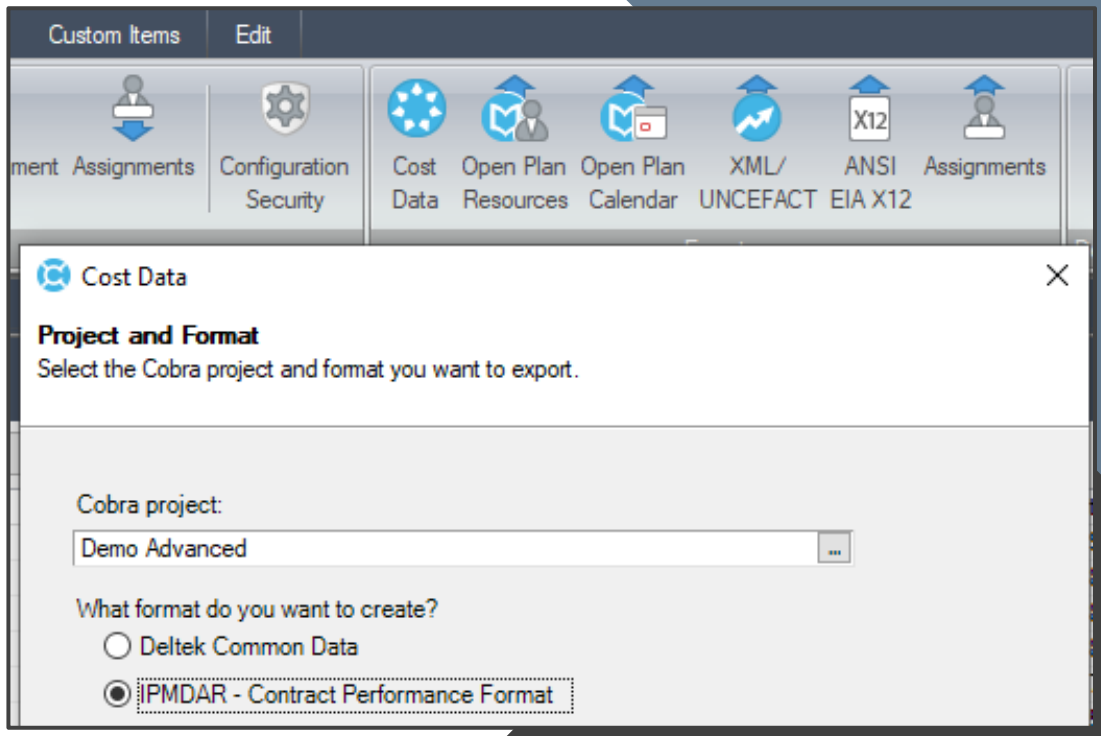



Image Source: EVM Tool

# Existing Projects

## PARALLEL PROCESSING

**Are You Ready to Turn-off Your Legacy System and Being Operating Solely in Cobra?**

- If not, a few months of operating in both systems is a good idea
- Perform internal and customer deliverable requirements in legacy system on your normal monthly close schedule, then
- Replicate in Cobra simultaneously or afterwards and see how well you did
- Helps with learning the tool and processes needed to operate

**Things to Track:**

- BCRs, ancillary data changes (rates, WBS, resources), Actuals, Progress, and Forecast updates, status
- Client reporting - Formatting changes are often acceptable but prior period reports must reconcile to your first delivery out of Cobra

# Get to Know **Robert Ameen**

## DIRECTOR, BDO INDUSTRY SPECIALTY SERVICES - PROGRAM OPTIMIZATION & PROJECT CONTROLS SOLUTIONS

Robert Ameen is a Director for the BDO Government Industry Specialty Service (ISS) and the Program Optimization and Project Controls team. He has over 25 years of experience in a variety of engineering and Government contracting environments, specializing in Project Control and Earned Value Management Systems.

Robert has extensive experience with EVMS data architecture, systems implementation, and fully compliant EVMS Reporting. His background in database and tool development, combined with his operational project control experience provides a unique advantage in data integrity and efficiency during implementations and monthly operations. In addition, he has extensive experience developing project baselines and preparing for Integrated Baseline Reviews (IBRs).

Robert holds the Earned Value Professional (EVP) certification from the American Association of Cost Engineers (AACEi), the Project Management Professional (PMP) certification from the Project Management Institute (PMI), and a Graduate Certificate in EVM from the PMI. He holds a B.S. in Mechanical Engineering from Virginia Tech, and an M.B.A. from Old Dominion University.

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# Get to Know **Kelsey Johnikin**

## MANAGER, BDO INDUSTRY SPECIALTY SERVICES - PROGRAM OPTIMIZATION & PROJECT CONTROLS SOLUTIONS

Kelsey Johnikin is a Manager for BDO's Industry Specialty Services Group in the Program Optimization and Project Controls team. She has over 10 years of experience as a Project Controls Analyst on major Department of Defense projects. In this capacity, she uses the Deltek PPM suite to track, manage, and report against program performance metrics using the Earned Value Management methodology. This involved interfacing with the different program roles and corporate executives to ensure compliant execution against contract requirements while still maximizing margins on the program.

Kelsey's experience includes configuring and processing the EVM Tools and working with program teams to develop a process design that allows for seamless monthly processing. This requires a thorough understanding of how the tools operate but also necessitates the synthesis and manipulation of data from external sources into their EVM tool. Through her years in the industry including experience as a project controls analyst, Kelsey brings an intimate knowledge of the needs of analyst.

Kelsey holds the holds a B.S. in Economics from Jacksonville State University, a Master of International development for Saint Mary's University Minnesota and an M.B.A. from Troy University.

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