

Benefits of Cost and Schedule Integration

Improving Planning and Project Controls Delivery
with a Common Data Environment



About Me:
Safety Moment



Problem Statement and Thesis

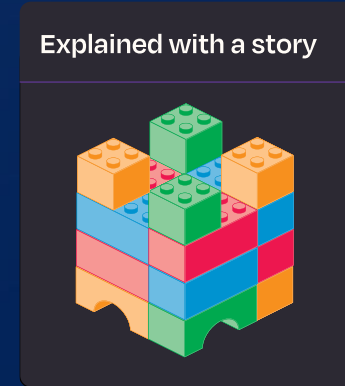
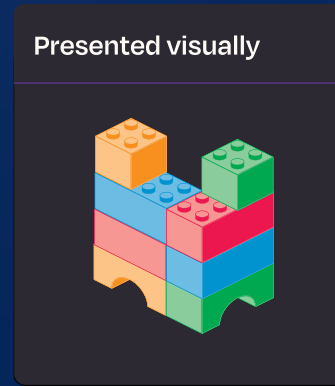
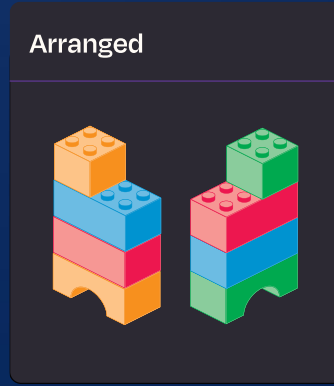
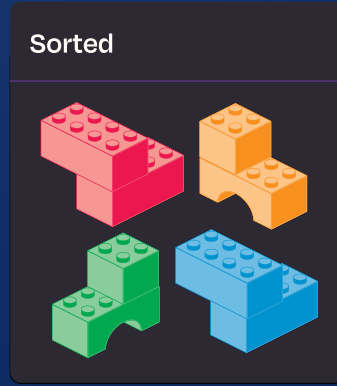
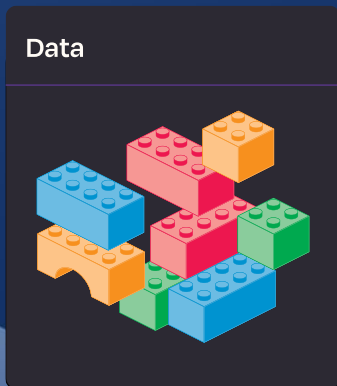
- The construction industry is one of the most significant contributors to the world's economy, with a forecasted growth of 7.3% from \$7.3 trillion in 2021 to \$14.4 trillion in 2030.
- This growth presents a significant opportunity for the industry, but also significant challenges.
- One of the significant challenges facing the industry is the need to improve cost and schedule certainty.
- The individuals needed to deliver this on a global scale do not exist.

The numbers of projects needed in the future is growing – as is the size & complexity

Project delivery as a practice and the science is not broken

As an industry, we focus on outputs (charts, graphs, reports) instead of the data

Yet the amount of data, speed of the project, and FTE constraints makes it impossible to deliver effective, accurate, and timely information



Overview For Today

1. Cost and Schedule must be integrated to do proper project controls. We need Cost/Schedule impacts of each change & impacts of each in graphic form.
2. Resource loading of a schedule is difficult, usually time phased, and not allowing for effective earned value management.
3. What if you could connect to the back of the XER file and connect the CBS to the WBS?
4. What if you could utilize automated data and be able to toggle between cost and schedule driven project, keeping the link between cost/schedule?
5. What can projects do if they can successfully integrate the two?
Baseline – change impacts – formulaic forecasting of time and cost, i.e., proper Earned Value Management.

Integrating Cost and Schedule

- Creates a common data environment
- Enables team collaboration
- Connects the pieces of the capital project puzzle
- Improves cost & schedule certainty



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Integrating Cost and Schedule

How does a common data environment improve cost and schedule certainty?

- A centralized location enables all project participants to collaboratively plan, track, and analyze capital projects and connect real-world project data with accounting-world financials.
- By extending the work and cost breakdown structure to all project participants, a team becomes synchronized and coordinated.

This is currently difficult because it involves...

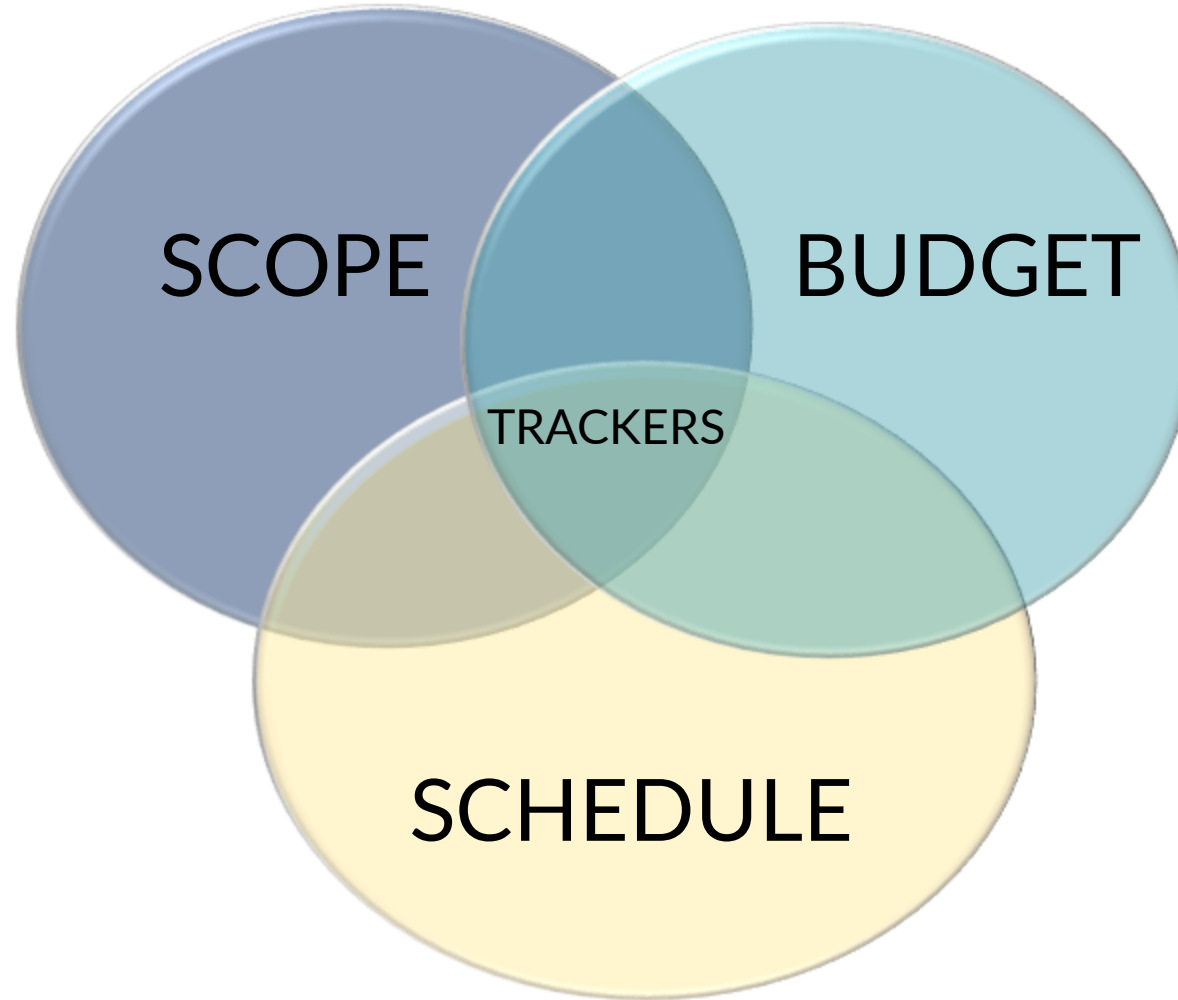
- A large team of project controls staff, and often results in reactive, post-event recovery.
- Different groups who own different types of data and do not share data effectively, so that when even a minor event occurs, its effects cascade through the whole project.
- Intimate knowledge of field activities and the awkward way accounting systems work.

A common data environment integrates with and leverages all sources of data, most of which are currently ignored, to create a single project truth.

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What everyone is attempting to do: Simplify and demystify the following



Real-Time Project Cost & Schedule Integration Benefits:

- Understanding the implications of budget, cost and schedule changes in a connected environment so when an event occurs, the effect is cascaded through the whole project
- Utilizing automated data to toggle between cost driven and schedule driven project scenarios to see the impact drives proactive behavior
- Better forecasting of time and cost leads to informed decision-making

Cost Driven



Schedule Driven



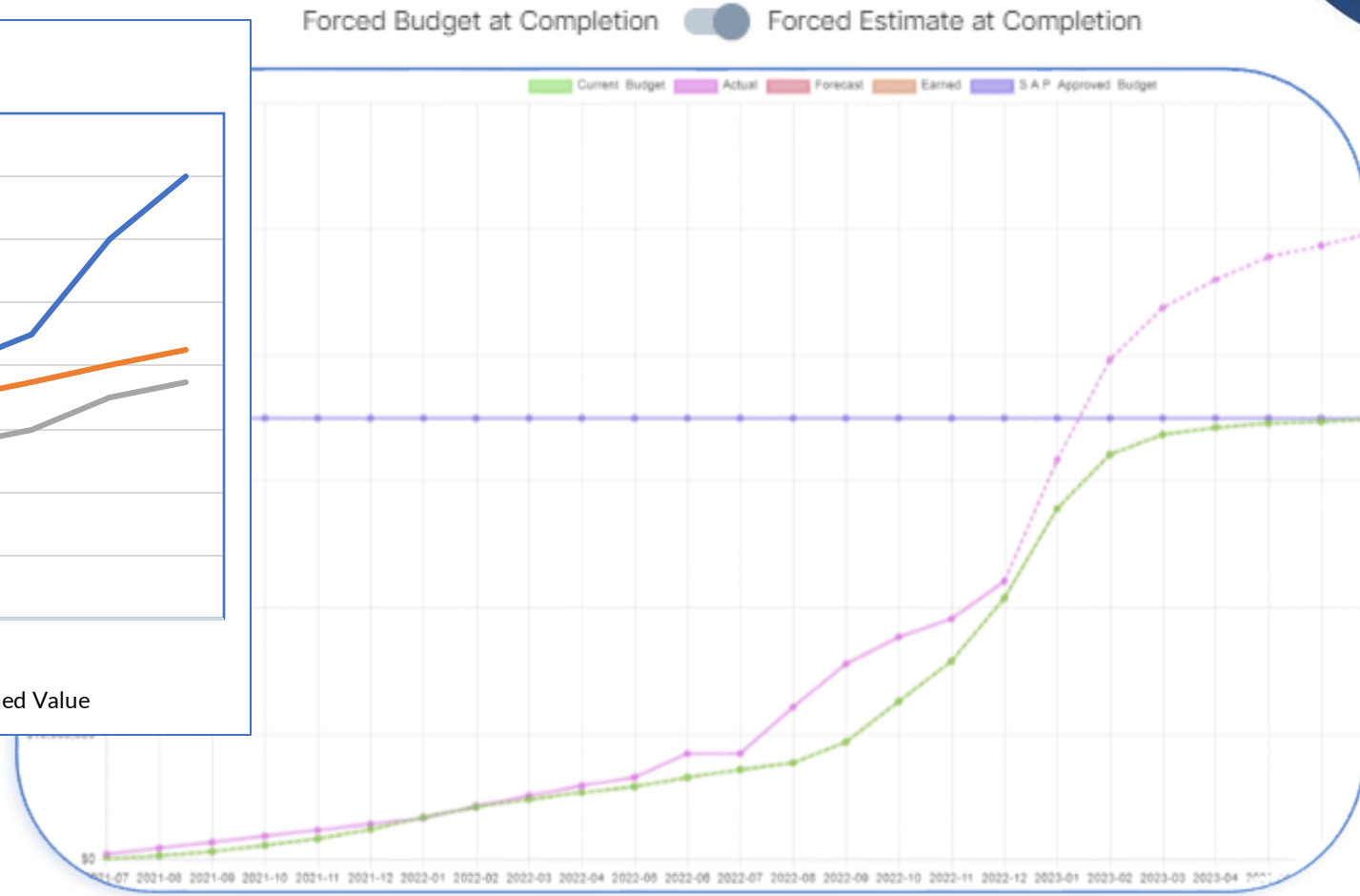
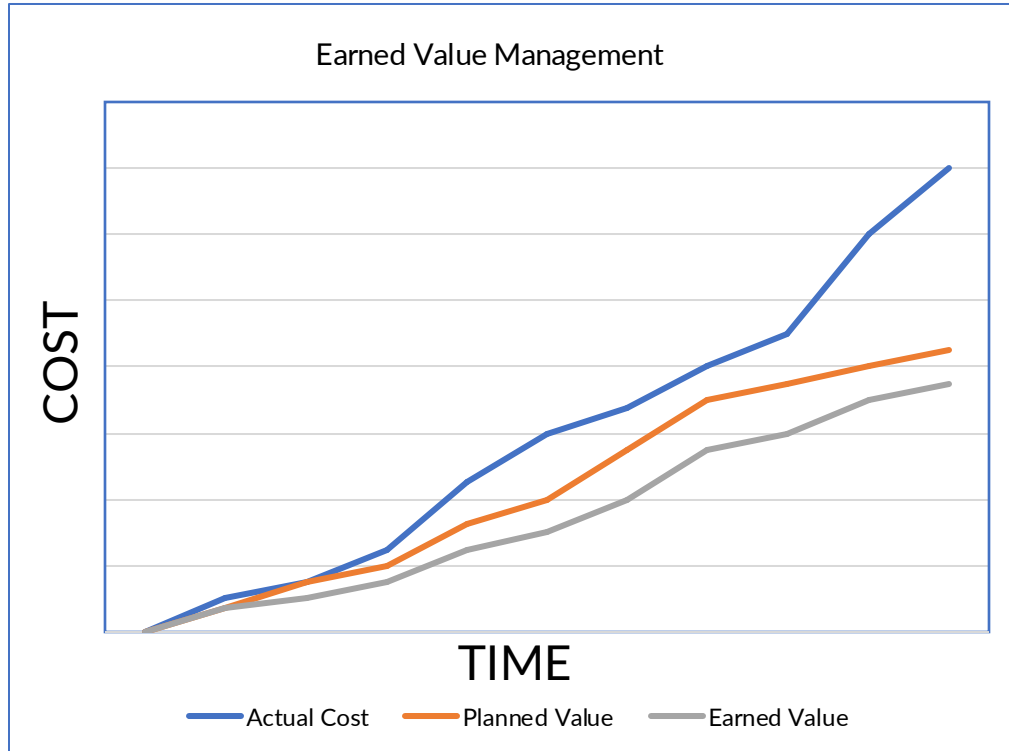
Project Control Challenges in Resource loading a Project Schedule:

- Limited resource availability (skilled personnel, equipment, materials) making it difficult to align availability with the schedule.
- Managing resource dependencies to avoid delays or overloading of resources.
- Time-phased planning requires careful coordination to ensure effective allocation over the project lifecycle.
- Uncertainty and changes due to unforeseen events, scope changes, priority shifts, requiring schedule changes and resource reallocation.

While tools and software assist, effective communication and collaboration among the team play a crucial role in managing the complexities of the project schedule.

What if you could connect the WBS and CBS?

Formulaic forecasting of time and cost provide an impactful view of the project





THANK YOU

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