

OCTOBER 25, 2023

Best Practices in Engineering, Construction Planning & Management

Presentations & Panel Q&A

Steve Furze, AVEVA

Dr. Ted Blackmon, Construct-X

Ray Paulk, Project AI

AVEVA

INTRODUCTIONS & SESSION FRAMING



Stephen *(Steve)*
Furze

Global Director of
Project Execution
Sales for AVEVA

AVEVA

Steve participates in the development of solutions strategies and is responsible for the sales enablement of the portfolio of Project Execution solutions.

Over 20 years of experience, developing and leading sales, services and “Go To Market” (GTM) teams focused on engineering, fabrication, construction and O&M solutions in the Process, Power, Marine, Mining and AEC industries.

Steve is a member of CII Board of Advisors.

Stephen.Furze@AVEVA.com



Ted
Blackmon, PhD

Founder
and CEO

CONSTRUCT-X

Dr. Ted Blackmon, PhD, helped to pioneer the entire market for Advanced Work Packaging (AWP); with the invention of the ConstructSim™ and OpSim™ platforms that drew upon his success with the Mars Pathfinder Mission at NASA.

His software platforms were so highly recognized in the marketplace, their acquisition became the industry’s cornerstone for many years.

Ted.Blackmon@Construct-X.com



Ray
Paulk

Senior Business
and Project Advisor

PROJECT AI

Ray specializes in enterprise transformation and the structuring and governance of capital investment programs.

With over 20 years experience in the Oil & Gas, Resources and Engineering & Construction industries; he has advised project teams of all sizes (minor, major and mega-projects) on six continents, and led global business transformation, technology implementation and functional standardization initiatives for some of the world’s largest companies.

Ray.Paulk@ProjectAi.com

AVEVA

Agenda / Session Framing



Industry Response & AVEVA Alignment



Real World Application of Best Practices

Ted Blackmon

Ray Paulk



Panel Discussion / Q&A

INDUSTRY CHALLENGES

According to a study by EY, 64% of complex projects face cost project overruns and 73% report delays. Completion costs were, on average, 59% higher than initial cost estimates – an increase in total of US\$500bn. Cost overruns of 50% are common and overruns of 100% are not uncommon



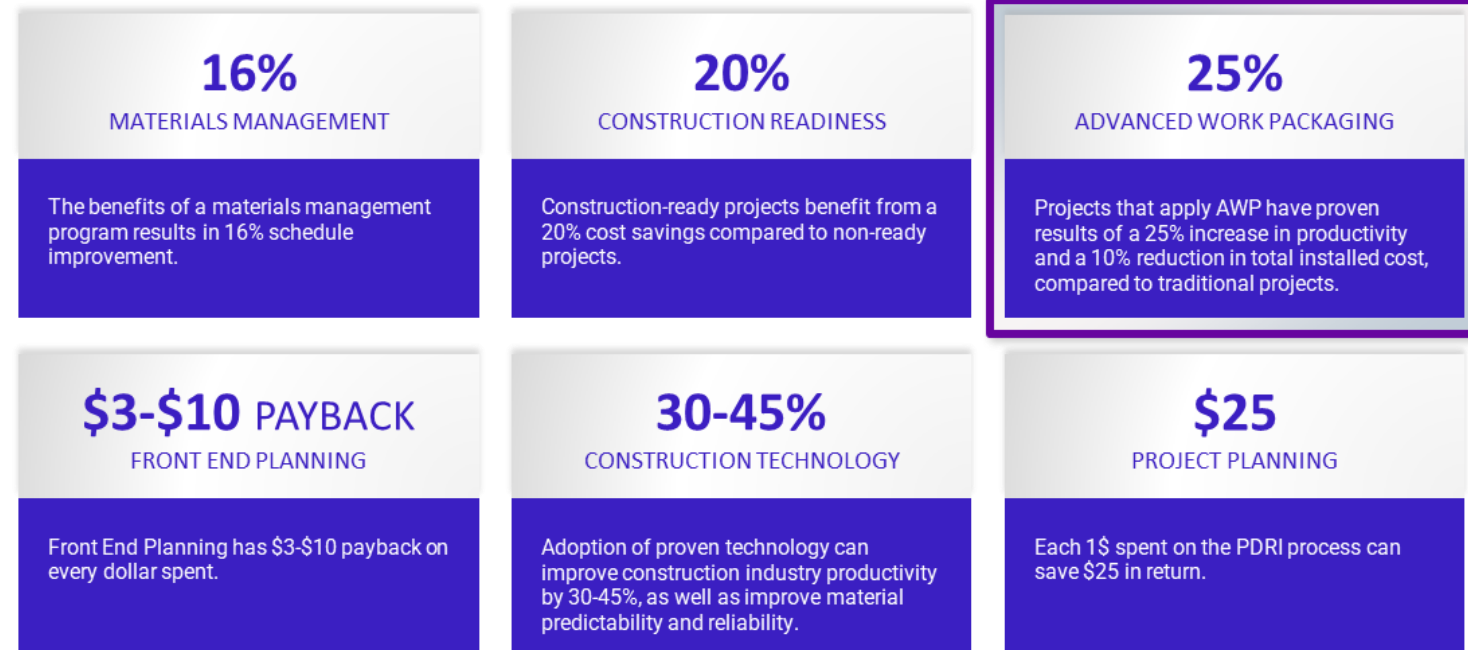
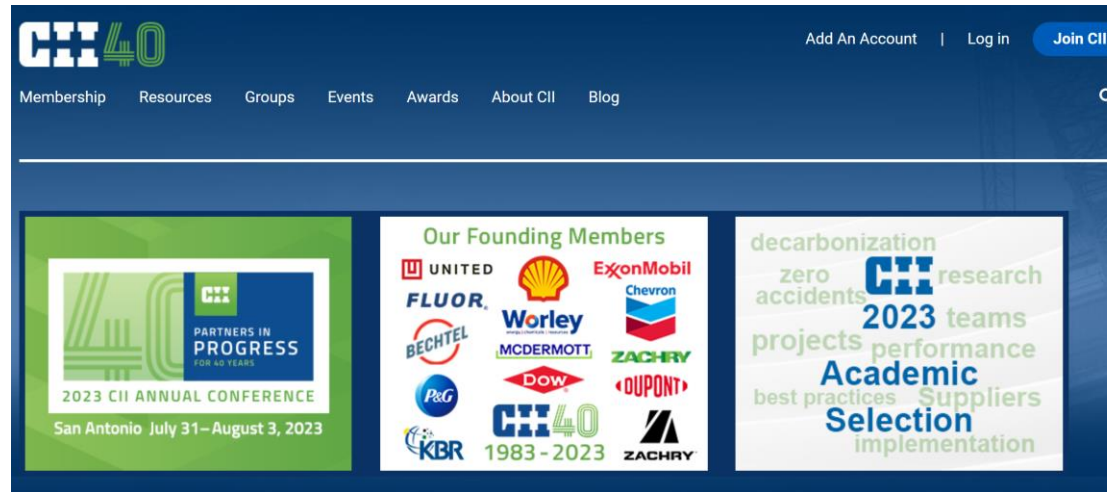
INDUSTRY RESPONSE

About the Construction Industry Institute (CII)

CII, based at The University of Texas at Austin, is a consortium of more than 130 leading owner, engineering-contractor, and supplier firms from both the public and private arenas.

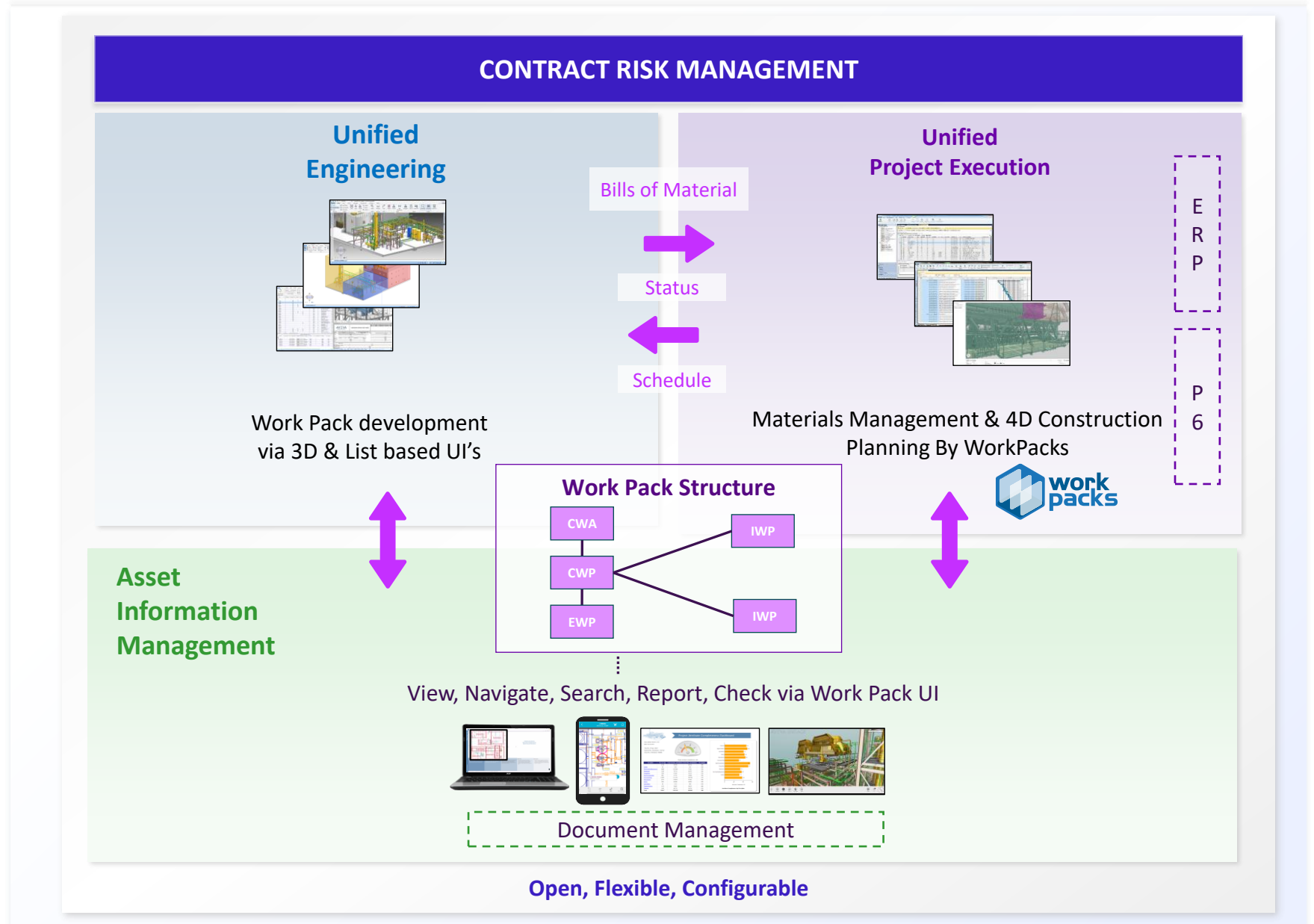
These organizations have joined together to enhance the business effectiveness and sustainability of the capital facility life cycle through CII research, related initiatives, and industry alliances.

[CII - Home \(construction-institute.org\)](https://www.construction-institute.org)

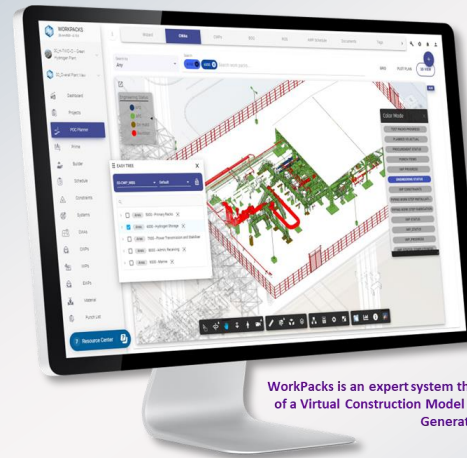
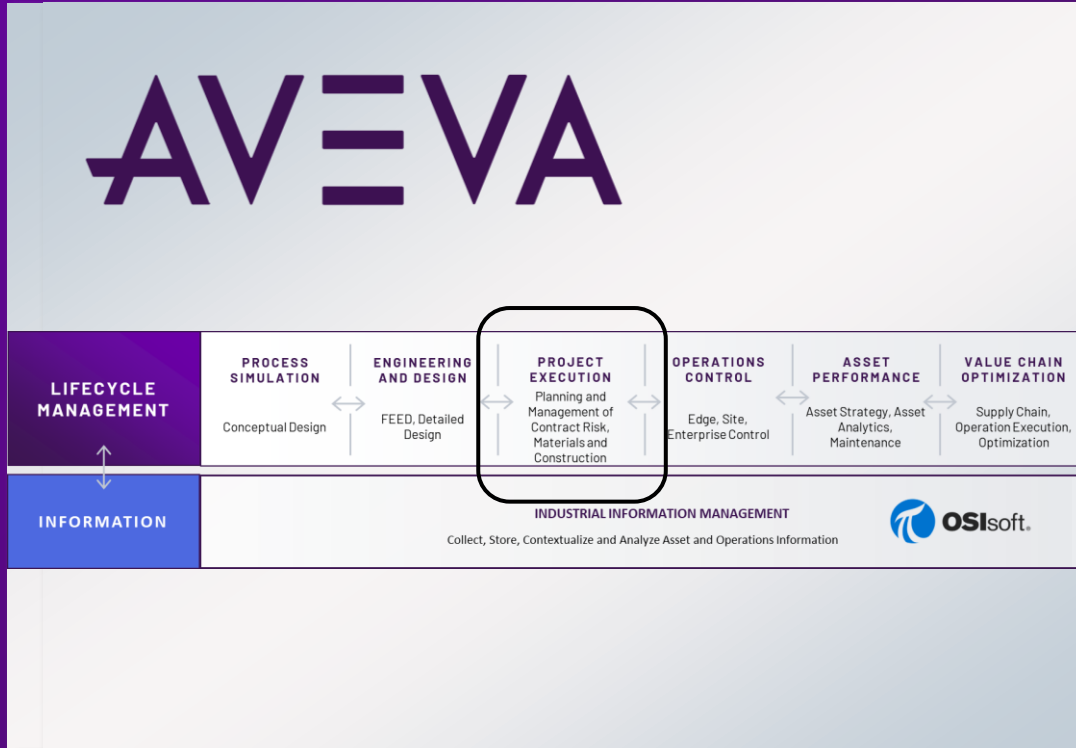


WORK PACKAGING

Work Packaging Threaded Throughout AVEVA Applications



AVEVA CONSTRUCTION PARTNERSHIPS



AI-Powered AWP with WorkPacks

- Digital Threads
- Automating the Path of Construction
- Connecting Project Controls to the VCM

WorkPacks is an expert system that automates the creation of a Virtual Construction Model through the application of Generative AI & other techniques.



Driving BUSINESS TRANSFORMATION LEVERAGING ADVANCED WORK PACKAGING (AWP), LEAN CONSTRUCTION, AND DESIGN FOR MANUFACTURING AND ASSEMBLY (DFMA) through strategic consulting and implementation services.



We fuse the right processes, people and technology to transform how your business and projects work.



» BUILDING A GREAT **AWP EXPERIENCE**

**BEST PRACTICES IN ENGINEERING,
CONSTRUCTION PLANNING & MANAGEMENT**

That Yield Proven Results



BUILDING A GREAT **AWP EXPERIENCE**

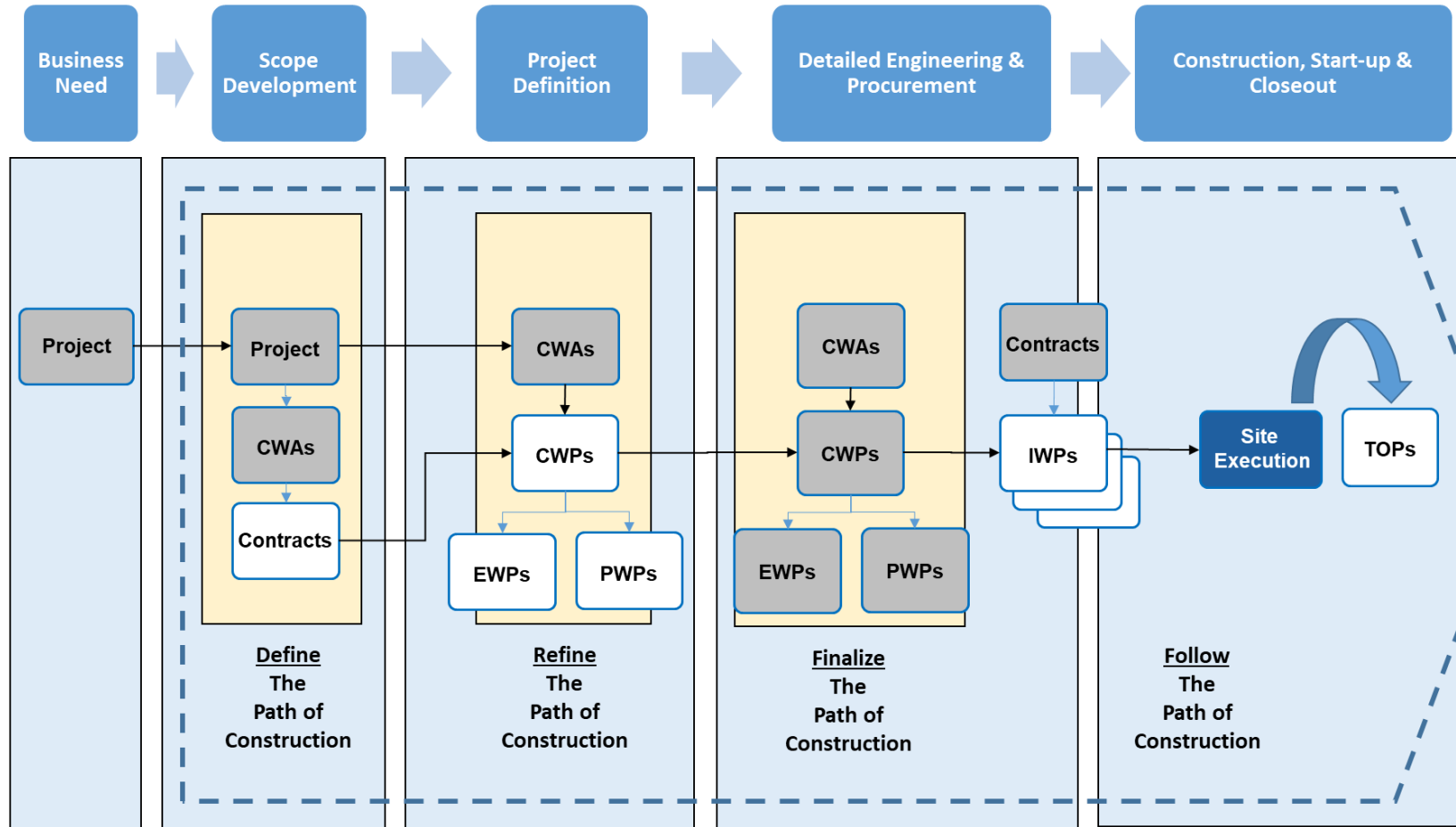
AWP COMMERCIAL WITH REFERENCES

- THE PROCESS @ 250K FEET
- WHAT DOES GOOD LOOK LIKE
- CLIENT ADOPTION

THE PROCESS @ 250K FEET
 THE AWP JOURNEY STARTED ABOUT 20 YEARS AGO



BUILDING A GREAT
 AWP EXPERIENCE



Advanced Work Packaging (AWP) with constraint management is a construction project management approach that combines the principles of breaking down projects into manageable work packages with the systematic identification and management of constraints

THE PROCESS @ 250K FEET BRING TOGETHER A BLEND OF SOLUTIONS



BUILDING A GREAT
AWP EXPERIENCE

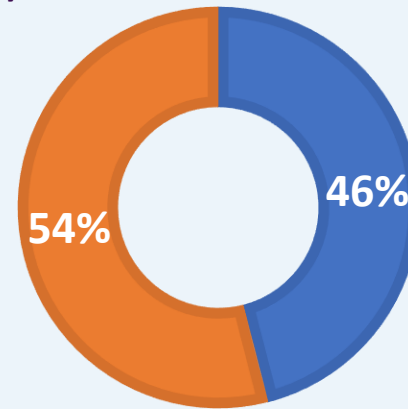
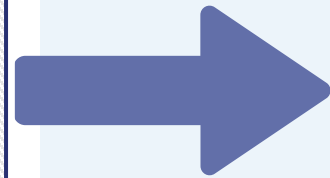
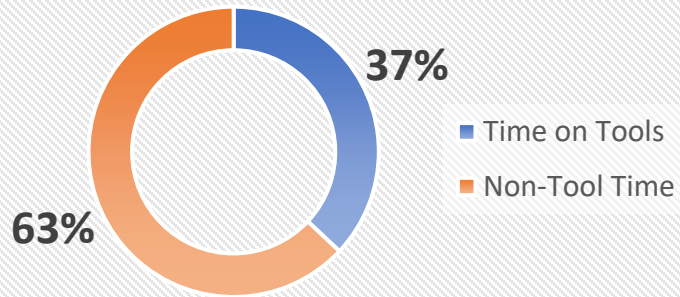
AWP Benefits

25%
Increase in Productivity

10%
Reduction in Cost

Improved
Safety

Cost and Schedule Predictability



THE PROCESS @ 250K FEET BRING TOGETHER A BLEND OF SOLUTIONS



BUILDING A GREAT
AWP EXPERIENCE

The screenshot displays the AWP software interface. The central 3D model shows a complex industrial plant with pipes highlighted in blue, green, purple, and yellow. On the left, an 'IWP Legend' lists tag categories: 'Tags Selectable into IWP Type' (green), 'Not Selectable into IWP Type' (grey), 'Tags in Current IWP' (purple), 'Selected Tags/Components' (yellow), 'Tags in another IWP of same type' (blue), and 'Tags to remove from current IWP' (red). Below the legend is the 'EASY TREE' panel, which shows a hierarchical view of tag groups and individual tags, such as '42"-PO-2567-031440-X' and '2"-PO-2986-031440-X-SP1'. On the right, the 'NEW IWP' form is open, showing fields for 'IWP ID' (6101), 'Plan Start' (CWP), 'Plan Finish' (CWP-6101-4430-01 - (4430)), 'Planner' (Aaron Wertman), and 'Status' (Drafted). Below the form is a table for 'IWP Scope Description' with columns for 'Status', 'Tag Id', 'Tag Type', 'Qty', and 'UoM'. The table contains one entry: '42"-PO-2567-031440-X-SP2' with a quantity of 1 and UoM of EA.

Status	Tag Id ↑	Tag Type	Qty	UoM
<input type="checkbox"/>	42"-PO-2567-031440-X-SP2	PI-SPL	1	EA

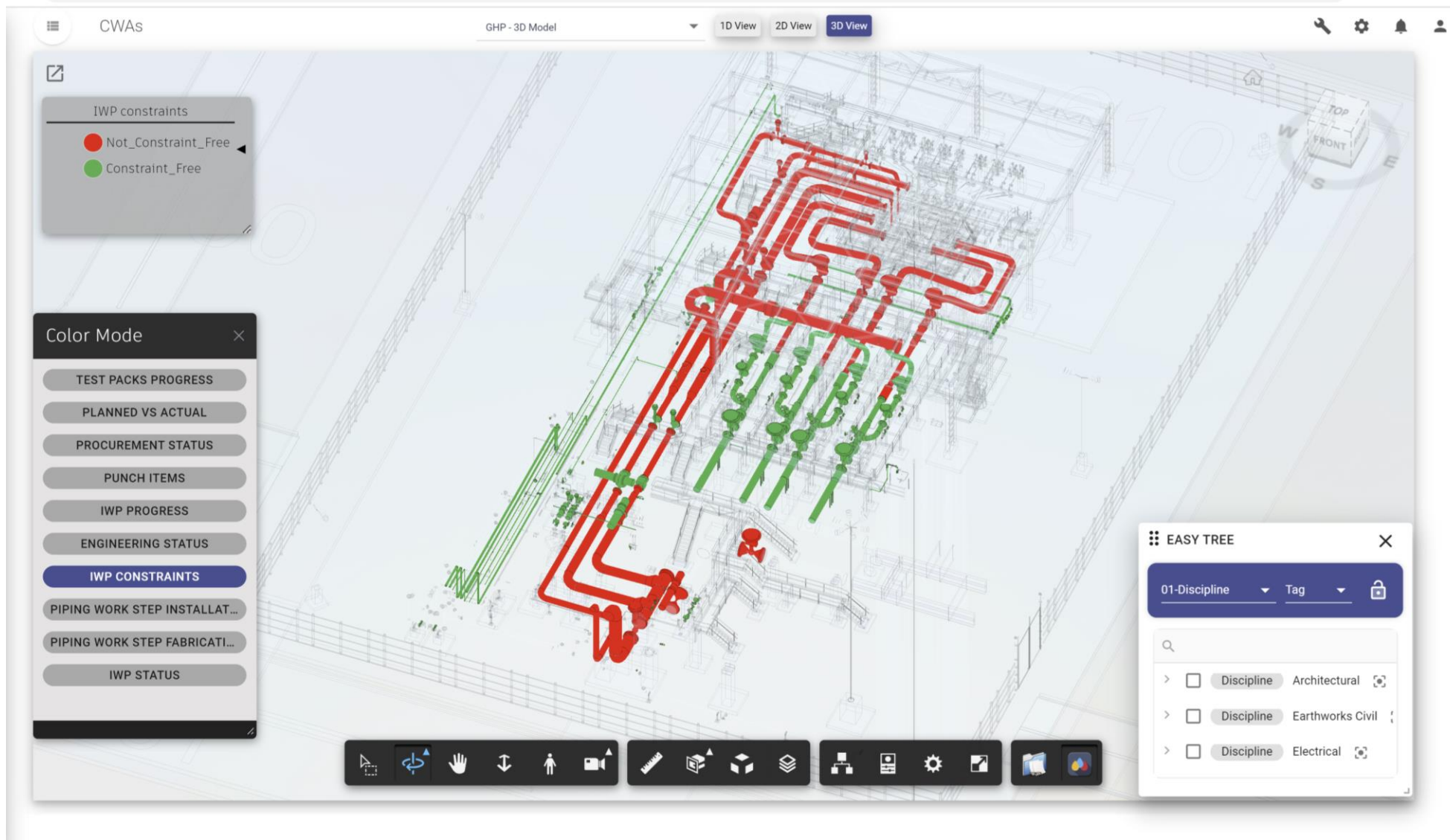
AWP

BUILDS
& LEVERAGES
YOUR
DIGITAL TWIN
THROUGH
PROJECT
EXECUTION

THE PROCESS @ 250K FEET BRING TOGETHER A BLEND OF SOLUTIONS



BUILDING A GREAT
AWP EXPERIENCE



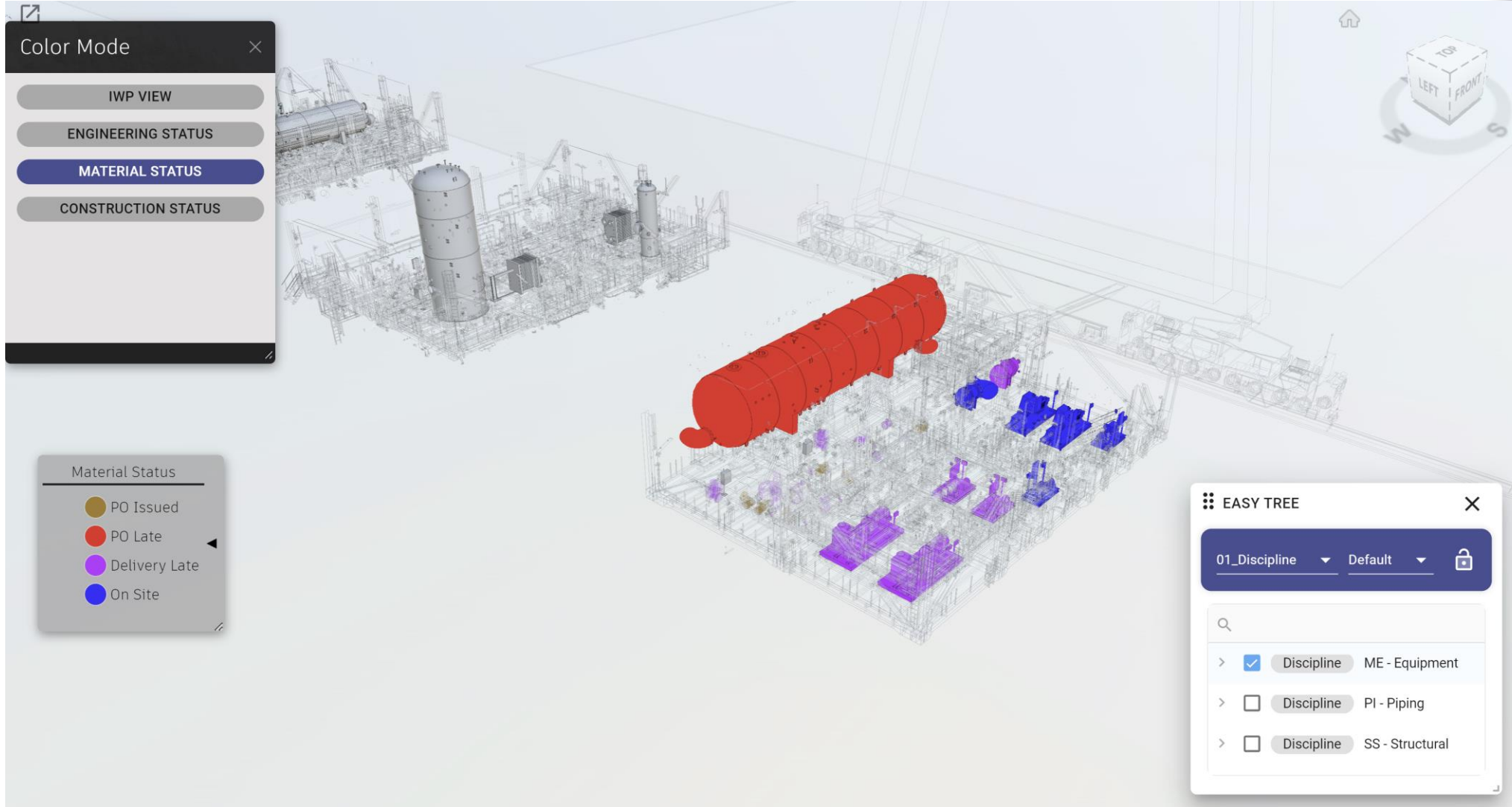
AWP

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BUILDING A GREAT
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AWP
BUILDS
& LEVERAGES
YOUR
DIGITAL TWIN
THROUGH
PROJECT
EXECUTION

WorkPacks - 6101-4310-01-01
Last update: 31/08/22 11:38

Local Mode Cloud Mode

106% 1 / 14

Table of contents

- IWP_Scope
- Drawings_and_Documents_List
- Scope_Tag_List
- Materials_List
- Construction_Execution_Steps
- Work_Volumn_Steps
- Safety_Information
- QA_QC

6101-4310-01-01 - 01 - Install Pumps P-1511 to P-1154 under hanger at shaft in CWA 6101

SUMMARY INFORMATION			
Plant / Unit	6100		
CWA	6101		
Discipline Code	4310		
CWP ID	CWP-6101-4310-01		
IWP Plan Start Date	11-17-2022		
IWP Plan Finish Date	11-23-2022		
IWP Planned Duration	4 days		
IWP Actual Start Date	11-17-2022		
IWP Actual Finish Date			
Key Quantity	4	EA	
Number Of Tags	4	Each	
Estimated Man-Hours		Hours	
Crew Size (Max)		People	

IWP Creation Date	IWP Start Date	Seq	IWP Post Date
08-04-2022	08-26-2022	5	08-31-2022

SECTION	PAGE
IWP Scope	2
Drawings & Documents List	3
Scope Tag List	4
Materials List	5
Construction Execution Steps	6
Work Volume Steps	6
Safety Information	9
QA / QC	10
Equipment & Tools	11
Access	12
Execution Approval	13
Closeout Sign-Off	14

PRE-REQUISITES (PREDECESSOR & SUCCESSOR PACKAGES)			
IWP Number	Discipline	IWP Sequence	IWP Status

6101 4310 CWP-6101-4310-01 6101-4310-01-01 Abdel Ghani Sinno Aaron Wertman Drafted

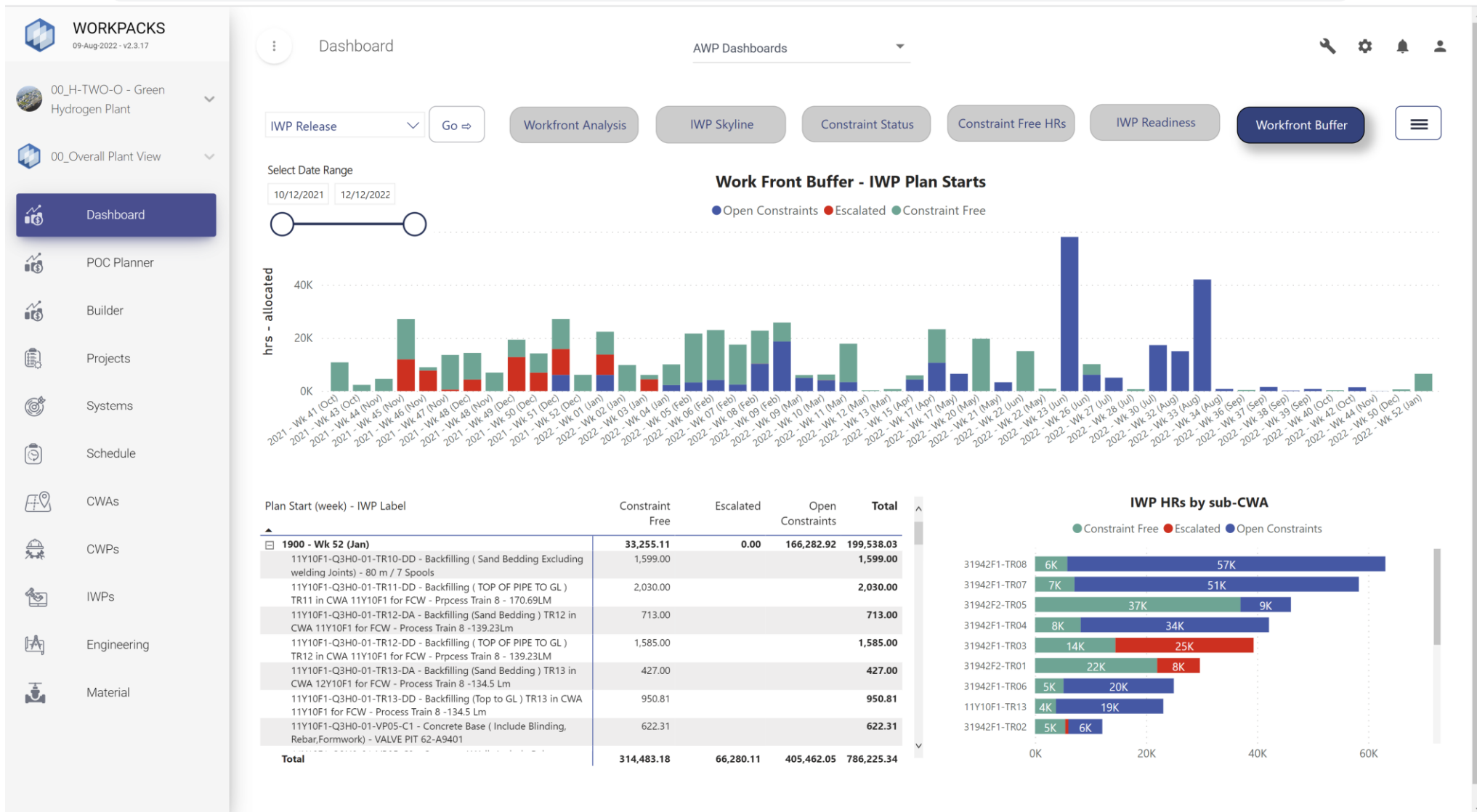
Projects My Packs File browser Settings

THE PROCESS @ 250K FEET BRING TOGETHER A BLEND OF SOLUTIONS



BUILDING A GREAT
AWP EXPERIENCE

AWP
BUILDS
& LEVERAGES
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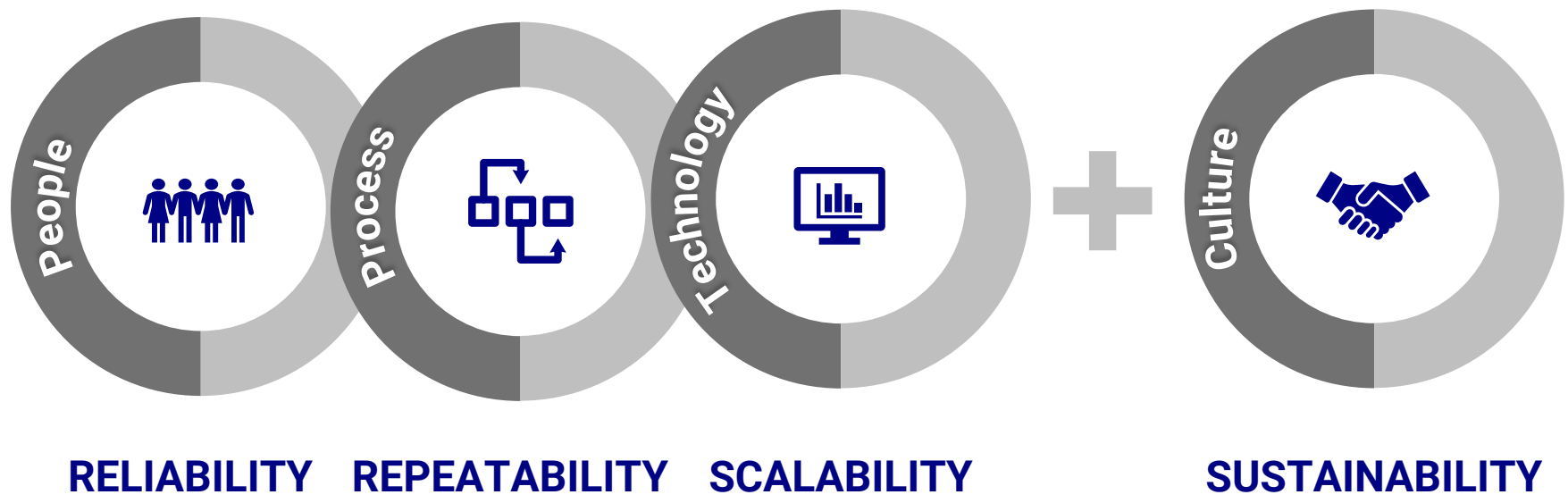


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AWP EXPERIENCE

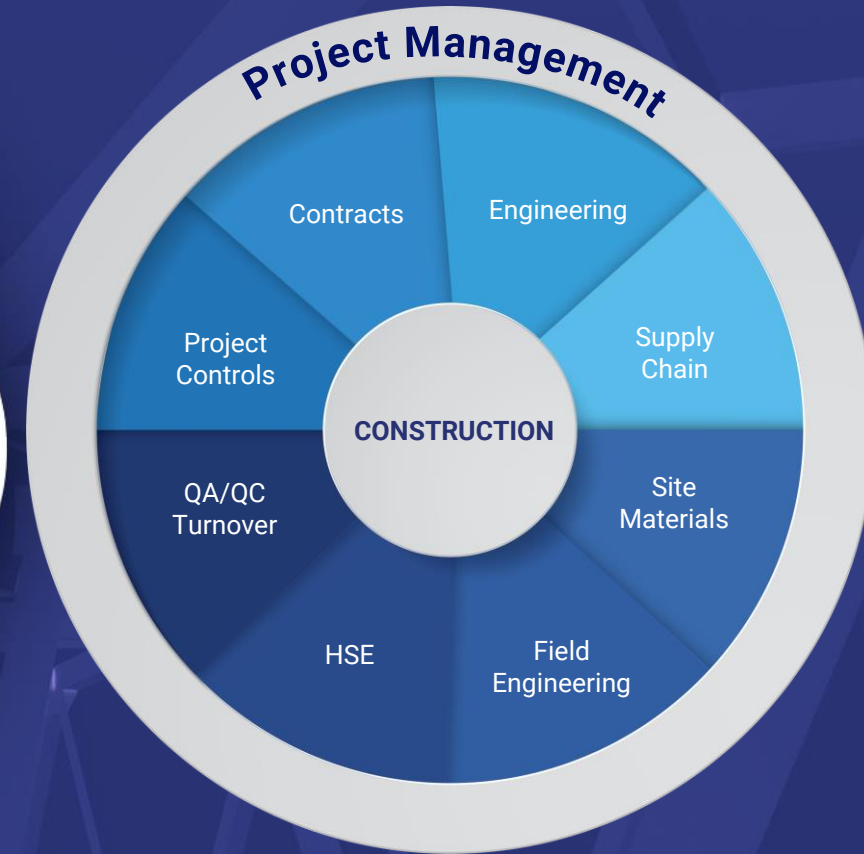
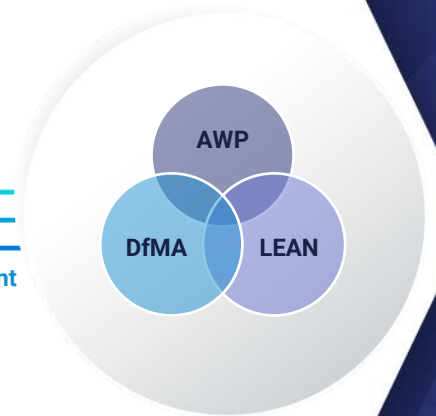
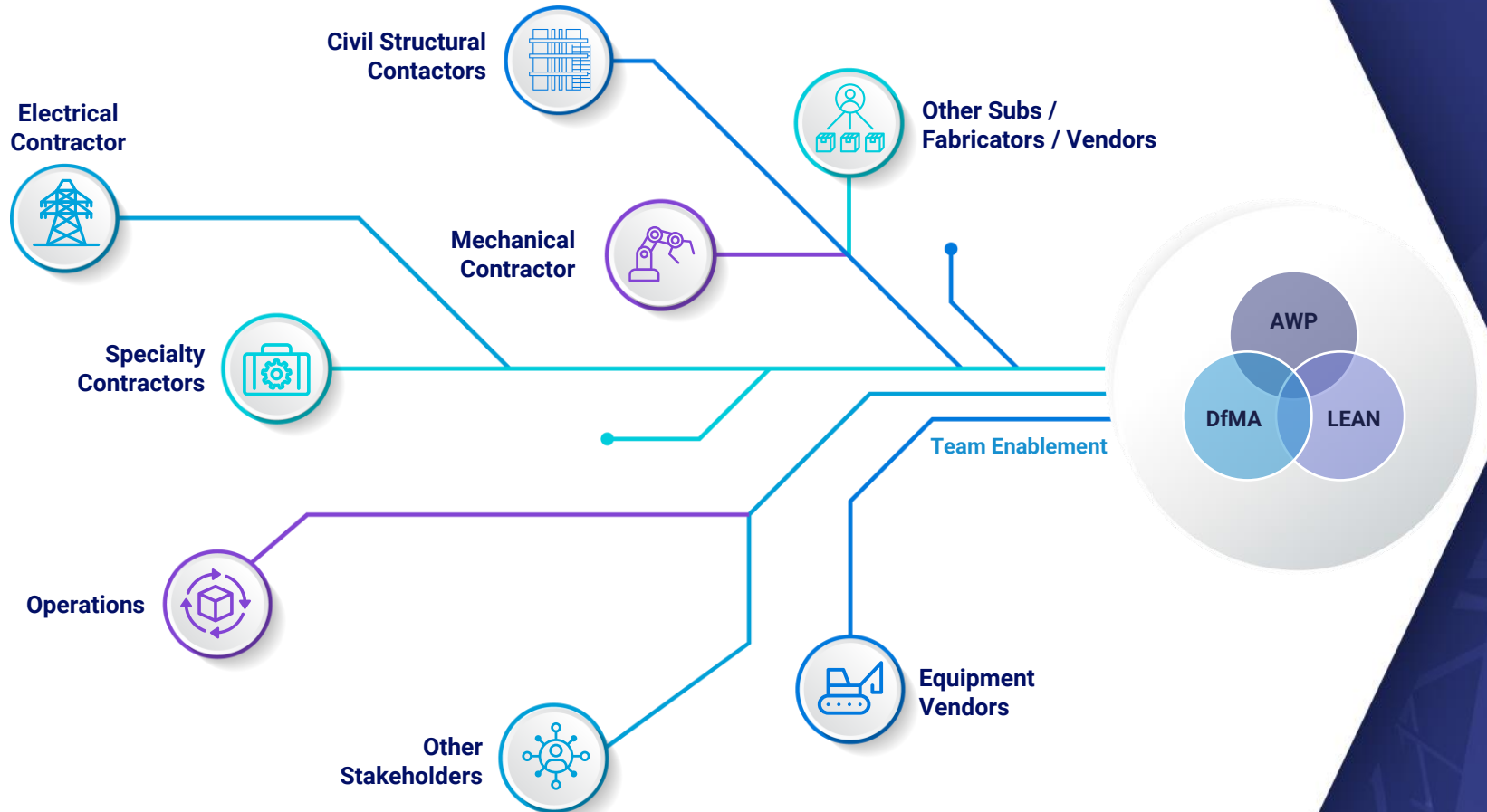
Achieving
optimal
benefits
requires ...

**ALIGNMENT
ALIGNMENT
ALIGNMENT**

The Science Behind Optimizing the Project Delivery Experience



WHAT DOES GOOD LOOK LIKE FUNCTIONAL & INTEGRATED TEAM



WHAT DOES GOOD LOOK LIKE USER QUOTES – THE METRICS

“The vision of leveraging the 3D design model as a project management tool has now been realized.”

- *Hiroyuki Mogami, Chiyoda Section Lead, IT
Digital Business Intelligence*

“Good things happen to those who work package early.”

- *User at major EPC Organization*

“This is next-level capability in AWP.”

- *User at major Owner Operator*

2-for-10



BUILDING A GREAT
AWP EXPERIENCE



BACKGROUND

- **Strategic Initiative** - NFE Project is a significant endeavor by Qatar Petroleum with a \$28.75 billion investment in the LNG sector.
- **Global Standing** - The project enhances Qatar's position as a leading LNG exporter, leveraging the third-largest gas field globally.
- **CCC's Role** - Focused on onshore LNG Mega trains, integrating advanced AWP solutions with digital EPC tools to achieve project objectives efficiently, involving significant quantities of various construction materials and commodities.



BUILDING A GREAT
AWP EXPERIENCE

Working
together ...

CCC
Wins

2

AWP Project
Awards at
2023 Annual
Conference

WHAT DOES GOOD LOOK LIKE CLIENT ADOPTION



RESULTS

- **Safety Improvements** - The 90-day lookahead feature provided transformative visibility, enabling proactive safety measures and optimized resource allocation for a safer project environment.
- **Quality Enhancement** - With a significant focus on quality, WorkPacks facilitated transparent tracking, dual-role tagging, and integration of quality measures into construction processes, resulting in remarkable improvements in quality benchmarks.
- **Efficiency in Time Management** - WorkPacks provided crucial features for time management, including 90-day visibility, proactive constraint management, and efficiency trend analysis, supporting the project's ambitious efficiency improvement goals.



BUILDING A GREAT
AWP EXPERIENCE

Working
together ...

CCC
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2

AWP Project
Awards at
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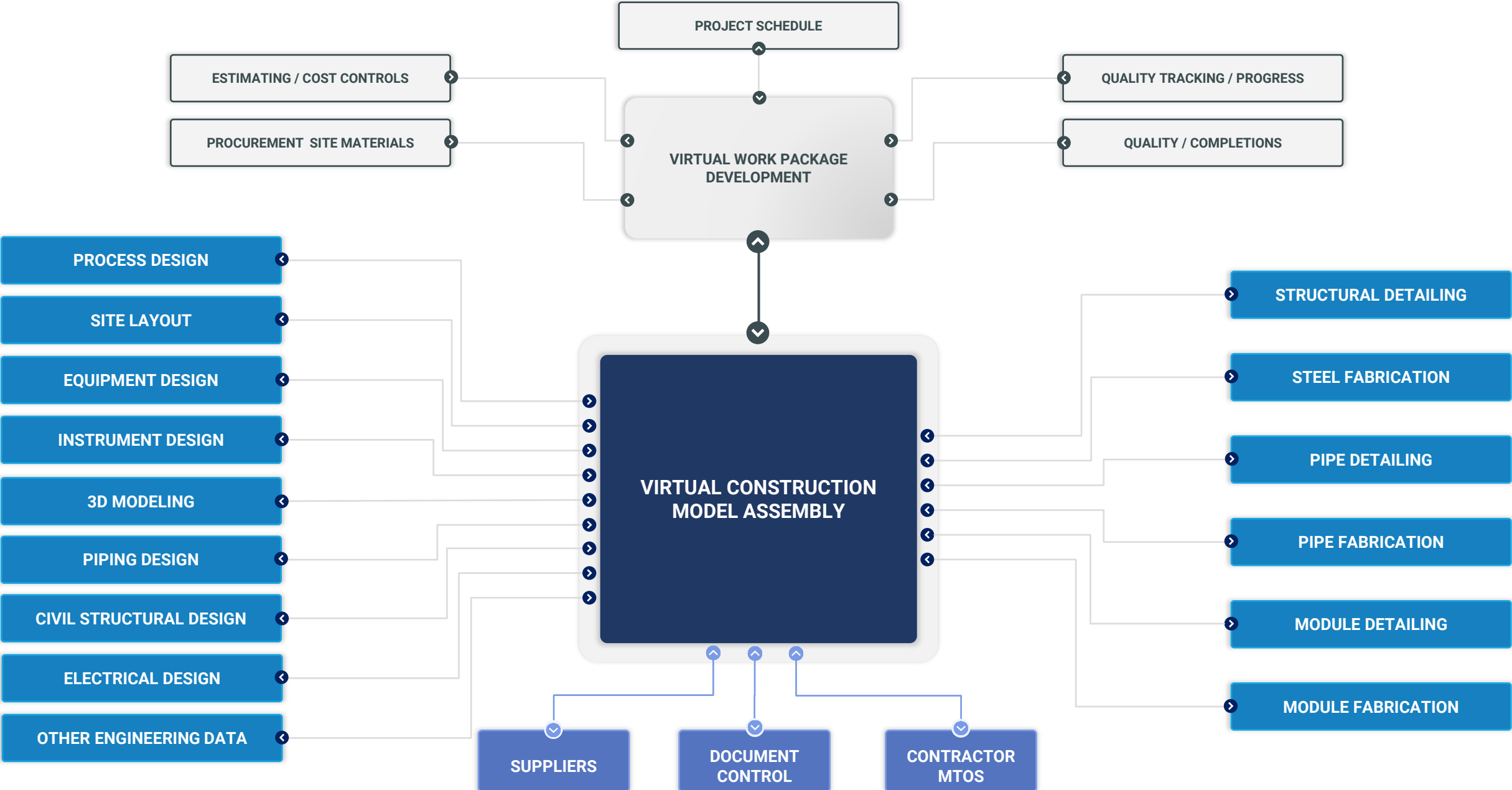


BUILDING A GREAT **AWP EXPERIENCE**

3.

AWP ROLL OUT CHALLENGES

- MANAGING DATA & CHANGES - DIGITAL THREADS
- CONTINUOUS DESIGN MODEL UPDATES –VCM
- GETTING THE ORGANIZATION TO DO CONSTRAINTS – CLOUD CONSTRAINTS
- BRINGING IT ALL TOGETHER



AWP ROLL OUT CHALLENGES

MANAGING DATA & CHANGES - DIGITAL THREADS

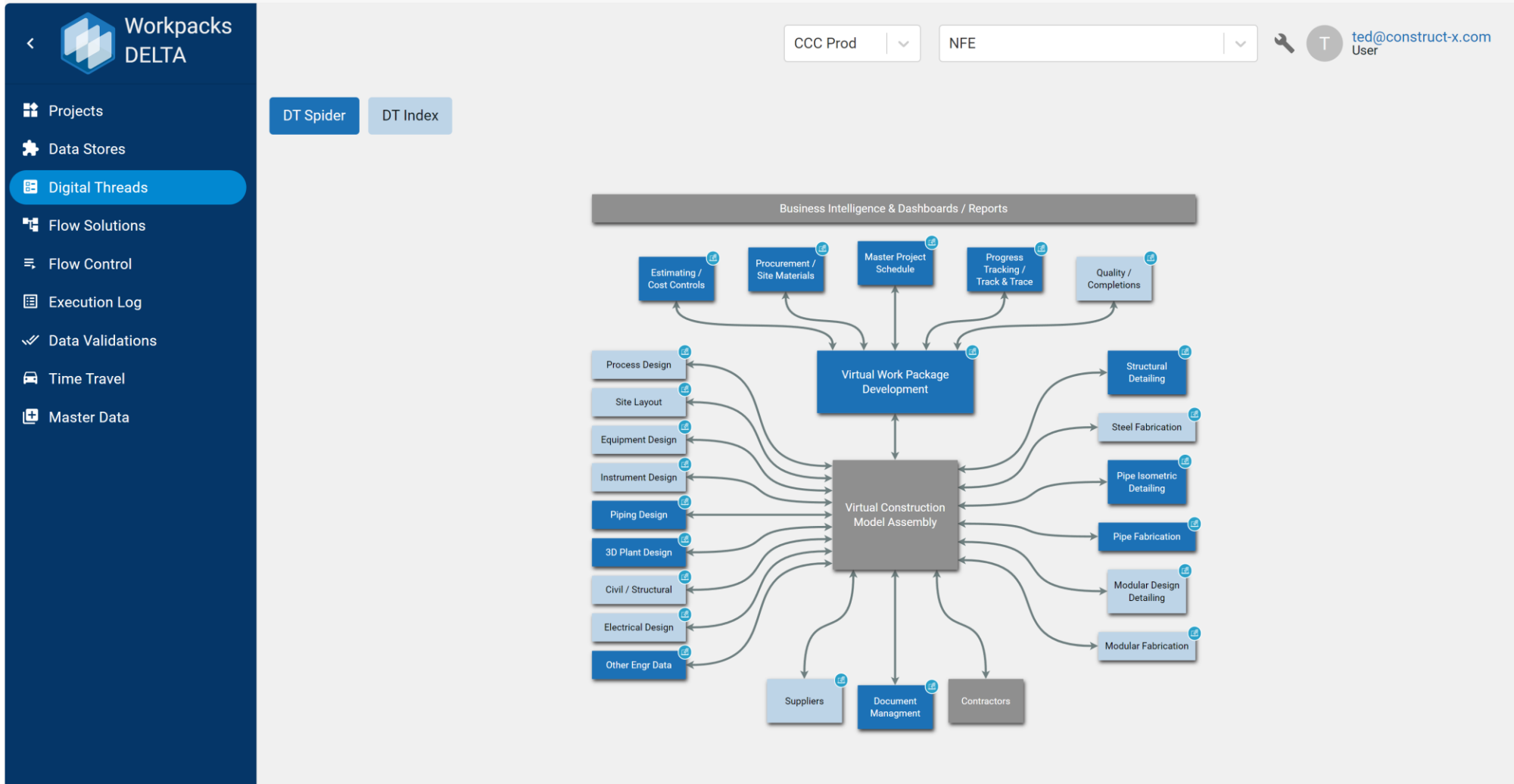


BUILDING A GREAT
AWP EXPERIENCE

AWP DEMANDS

NEW ROLES & DIGITAL USERS

ON PROJECTS NOT TYPICAL PROJECT BUDGETS



AWP ROLL OUT CHALLENGES

MANAGING DATA & CHANGES - DIGITAL THREADS



BUILDING A GREAT
AWP EXPERIENCE

AWP DEMANDS

NEW ROLES & DIGITAL USERS

ON PROJECTS NOT TYPICAL PROJECT BUDGETS

The screenshot displays the Workpacks DELTA interface. On the left is a dark blue sidebar with navigation options: Projects, Data Stores, Digital Threads, Flow Solutions (highlighted), Flow Control, Execution Log, Data Validations, Time Travel, and Master Data. The main area shows a workflow for 'BOM/MTO Consolidation' with a '@Daily At 03:...' trigger. The workflow consists of three tasks: 'Build BOM Report', 'Generate DTs', and 'Send to SharePoint', all with a plan date of October 14th and an actual date of October 14th. The workflow is currently in a 'Finished' state. The interface includes a top navigation bar with 'CCC Prod' and 'NFE' dropdowns, a user profile for 'ted@construct-x.com', and a bottom right 'Flow Logs' button. The workflow is flanked by 'Config', 'Notebook', and 'Tasks' tabs on the left, and a 'Status Legends' tab on the right.

AWP ROLL OUT CHALLENGES GETTING THE ORGANIZATION TO DO CONSTRAINTS



BUILDING A GREAT
AWP EXPERIENCE

AWP DEMANDS

NEW ROLES & DIGITAL USERS

ON PROJECTS NOT TYPICAL PROJECT BUDGETS

The screenshot displays the 'Constraints Details' page in the AWP software. The left sidebar shows a navigation menu with 'Constraints' highlighted. The main content area features a 'Constraint Editor' modal for a specific constraint. The editor includes fields for 'Countdown' (46 Days), 'Clear By' (Oct 17th 22), 'CRD', 'Plan', 'CRD Overall', and 'Plan Overall'. Below these are fields for 'Constraint Number' (489c520e9892caa9fe63c7ec818103ce), 'Category' (Materials), 'Description' (Material mobilization / on-site), and 'Notes'. An 'Actions History' section shows two actions: 'Raised by aaron, on 2022-08-26' and 'Assigned to abdel, on 2022-08-26'. At the bottom, a table lists several constraints with their counts and status (Escalated, Critical, Unassigned).

Constraint ID	Count	Status
6101-4130-01-10	17	Escalated
6101-4130-01-11	17	Critical
6101-4220-01-01	12	Unassigned
6101-4220-01-03	12	Unassigned
6101-4430-01-03	1	Unassigned

AWP ROLL OUT CHALLENGES CONTINUOUS DESIGN MODEL UPDATES –VCM



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Check Data Source Info

CWP Readiness Summary



Material Allocation Status by CWP

Material Status

- A - Material Issued
- C - Mat'l Fully Allocated
- E - Mat'l Not On Hand
- F - Material Shortage



Days to CWP Plan Start



Discipline

- EL
- IC
- ME
- PE
- EA
- FT
- ST
- EA

Engr MTO QTY 61,574.32	Site MTO QTY 62,391.32	QTY Issued 2,099.60	QTY Reserved 1,113.97	QTY Allocated 58,022.11	On Hand QTY 33,933.72	Not On Hand QTY 25,244.03	QTY Short 2,229.61
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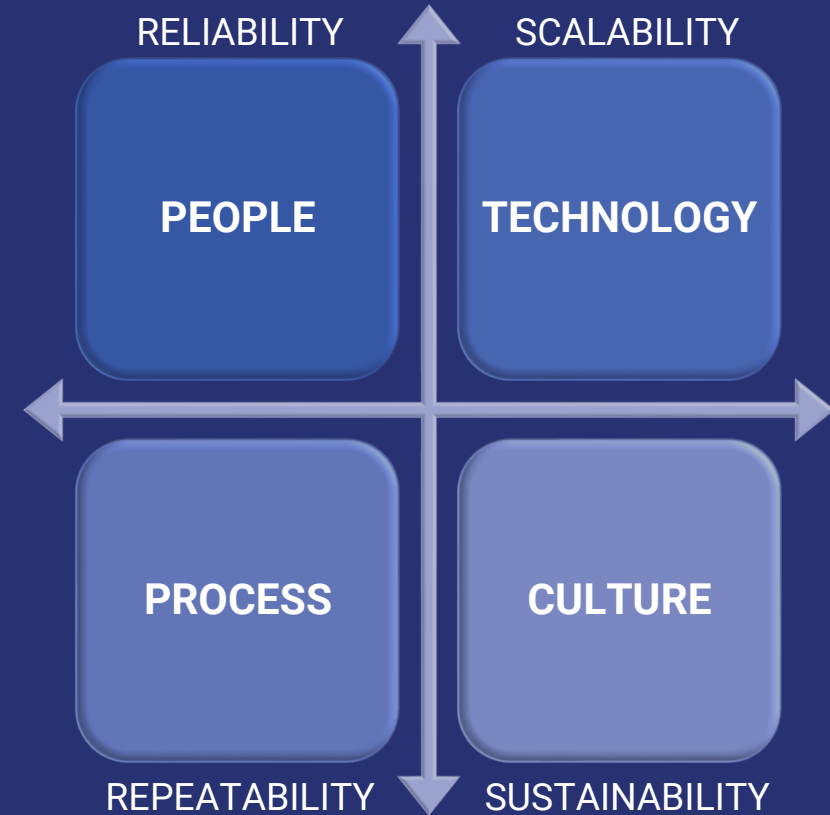
AWP DEMANDS

NEW ROLES & DIGITAL USERS

ON PROJECTS NOT TYPICAL PROJECT BUDGETS

AWP ROLL OUT CHALLENGES BRINGING IT ALL TOGETHER

-  **Fit-For-Purpose
AWP/LPD Program**
-  **Implementation
Strategy**
-  **Education,
Training & Coaching**
-  **Implementation
Support & Staffing**
-  **Continuous
Improvement**



THANK YOU!



Info@construct-x.com



www.construct-x.com



» BUILDING A GREAT **AWP EXPERIENCE**

**BEST PRACTICES IN ENGINEERING,
CONSTRUCTION PLANNING & MANAGEMENT**

That Yield Proven Results



The Intelligent Project: Digital Execution & AWP in Capital Portfolios

Ray Paulk
Founder / CEO, ProjectAI
AVEVA World 2023 - San Francisco

projectai.com



Today's Speaker



Ray Paulk

Founder / CEO, ProjectAI

- Senior business and portfolio advisor specialising in capital investment/ venture structuring, project strategy, technology strategy, portfolio optimisation, growth & international expansion.
- Over 20 years experience in major- and mega-projects and portfolios for the Oil & Gas, Natural Resources and EPC industries.
- Expert in major project governance to inform capital investment decisions, execution phase reviews, and forensic reviews.
- Led large multi-disciplinary teams, overseeing project controls for projects and programs ranging from \$4m to \$15bn, and portfolios ranging from \$60 to \$100bn. Advised numerous project and portfolio teams on six continents.
- Recognized innovator and thought leader in Project & Portfolio Management, specializing in advanced analytics, automation, systems integration, reporting and artificial intelligence for projects.

Why do Owners and EPCs
still struggle with digital transformation in
capital projects?



Problem 1:

Projects are **human**.

Problem 2:

Projects are **temporary**.

Problem 3:

Projects are **unique**.



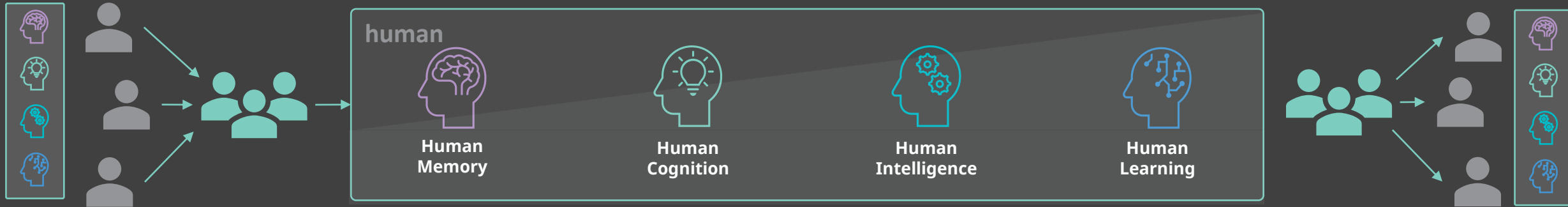
A new team comes together...

They learn a lot of things...

They create a lot of data...

The project ends...

Everyone leaves.





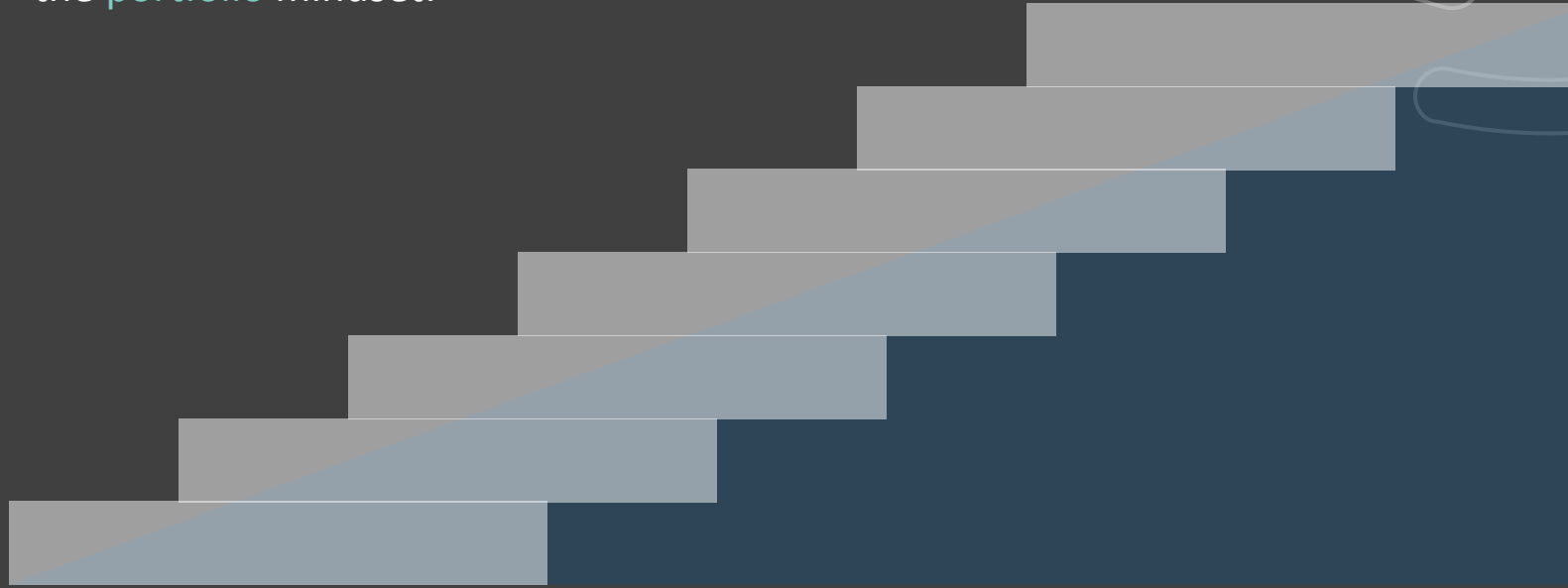
the single project mindset

Every project is **temporary** ...
but the knowledge we gain from them **does not have to be.**

the single project mindset:



the **portfolio** mindset:



Projects are temporary... but we keep doing them.
Projects are unique... but not special.

cognition

Humans and machines are already quite good at converting data into information they can understand and use.

experience

Humans are good at learning from experience, and machine learning is getting better all the time ... both depend on **relevant context**.

Data

Information

Knowledge

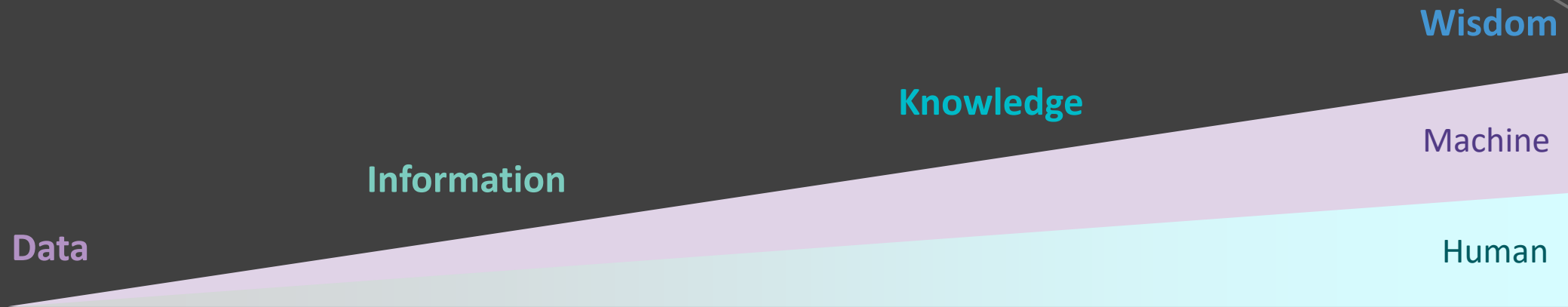
Wisdom

What's missing?

meaning

Intelligent project execution **is not achieved** with a new dashboard

...but through the combination of human and artificial intelligence to **meaningfully predict future outcomes** and **optimize actions and decisions in the face of emerging conditions**.



Reporting

What happened?

Analysis

Why did it happen?

Monitoring

What's happening now?

Predictive

What will happen?

Prescriptive

What should happen?



SCADA
IIOT

AWP

AI

Governance

Understand | Manage Risk | Diagnose | Decide

pulse

Listen | Learn | Engage

**Crowdsourced Team Sentiment
& Stakeholder Management**

retina

Visualise | Analyse | Predict | Optimise

**Project & Portfolio Dashboards, Predictive Analytics
& Knowledge Discovery using Natural Language**

cortex

Connect | Condition | Contextualize

**Semantic Knowledge Platform
for the Industrial Enterprise**

People

Roles | Accountability
Ingenuity | Emotion

Process

Value Chain | Workflows
Best Practices

Technology

Project & Portfolio Mgmt Apps | Engineering & BIM Platforms
IIOT | Documents & Collaboration | ERP Platforms
Operations & Asset Management Platforms

Culture

Innovation | Transparency | Collaboration | Performance

Why ProjectAI?

- We use AI to convert unique project data into universal concepts – unlocking faster reporting, portfolio optimisation, predictive analysis and decision making across any application landscape or execution strategy.
- We capture human expertise in a form that AI can access, interpret, re-use and improve upon.
- We use explicit enterprise knowledge, inferred model-driven knowledge and large language models (e.g. GPT).
- **We use AI to bring people in to the project... not to push them out.**

The value benefits from AWP are an excellent catalyst for cross-functional project & asset lifecycle data integration.

Business Optimization

Project Portfolio Optimization

Asset Portfolio Optimization / Integrated Planning

 Opportunities

 Projects

 Operations

 Sustaining



Cortex / Retina by ProjectAI

AVEVA Predictive Analytics

Unified Engineering

Unified Project Execution

Unified Operations Centre

Project Controls

Engineer

Procure

Fabricate

Construct

Comm

- Scope Control / WBS
- Estimating
- Planning & Scheduling
- Cost Control
- Resource Planning
- Risk Management
- Progress Measurement / EVM
- Performance Reporting

Eng Discipline Integration

- Structural
- Mechanical
- Piping
- Electrical
- Instrumentation
- Etc.

Model Management

- Class Library
- Information Standards
- GIS
- Etc.

Contract Management

- Tenders
- Evaluation
- Contracts
- Variations
- Claims
- Correspondence

Materials Management

- Purchasing
- Expediting
- Shipping
- Receiving
- Inventory
- Preservation
- Site Issue

AWP / WF Planning

- Documents & Drawings
- Work Instructions
- Labour Resources
- Training / Competency
- Material Resources
- Equipment Resources
- Tools / Consumables
- PPE / Safety / Rescue
- Permits & Controls

Completions

- Operations Control
- Production Optimization
- Asset Management
- Work Management
- Maintenance
- Reliability
- Permitting / Control of Work

 Sustaining Projects (AWP at Smaller Scale)

- Brownfield
- Shutdowns
- Turnarounds

Decommissioning (AWP in Reverse)

AVEVA E3D

AVEVA CRM

AVEVA ERM

Workpacks

Inbound Logistics

Consumables / Waste

Outbound Logistics

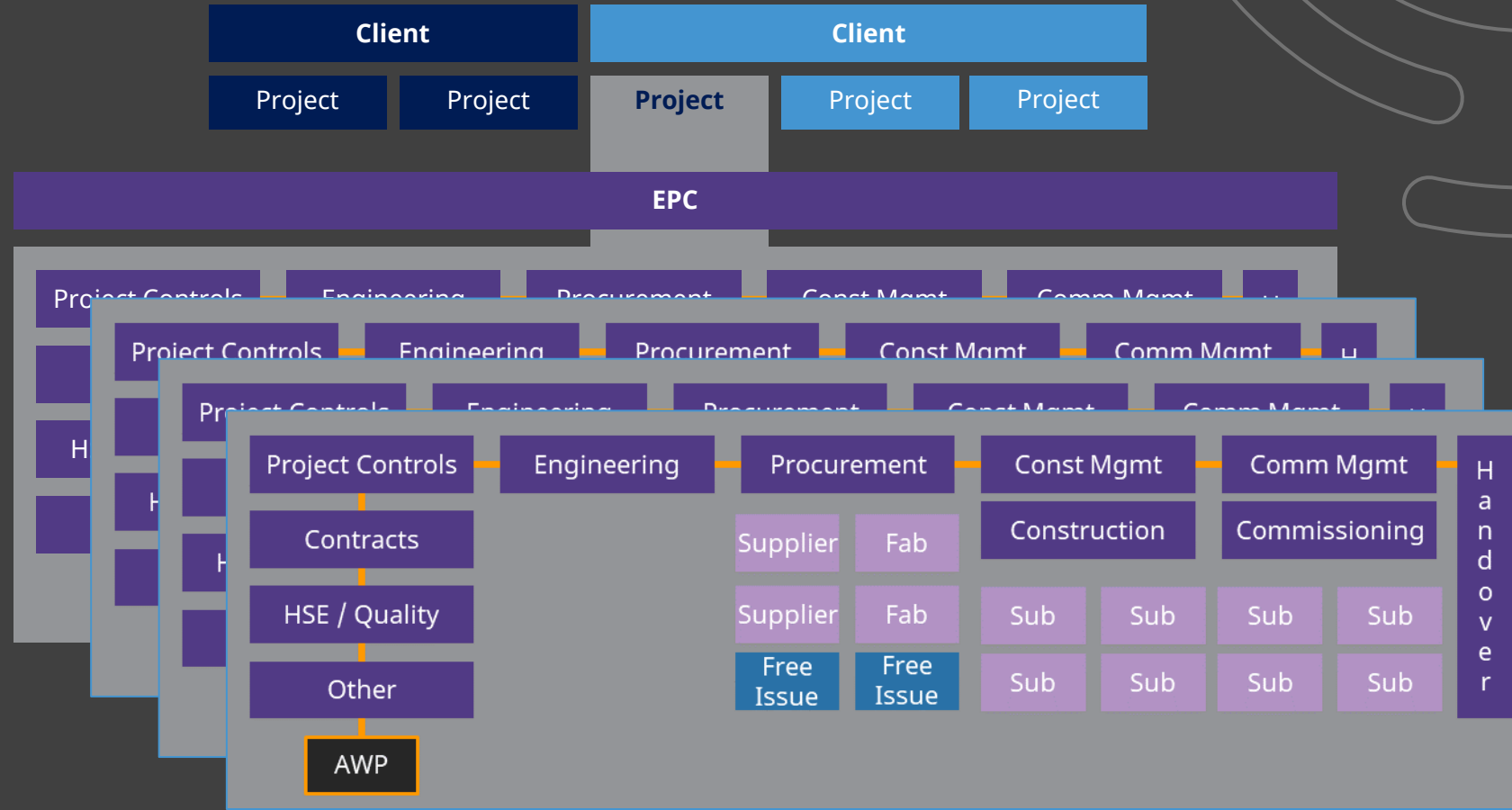
Unified Supply Chain

AVEVA Asset Information Management

AWP in the EPC

EPCs / EPCMs use AWP to tie a digital thread through a project.

But the value of AWP is amplified for the EPC by connecting the data across their portfolio... using common systems to facilitate the needs of multiple clients simultaneously.



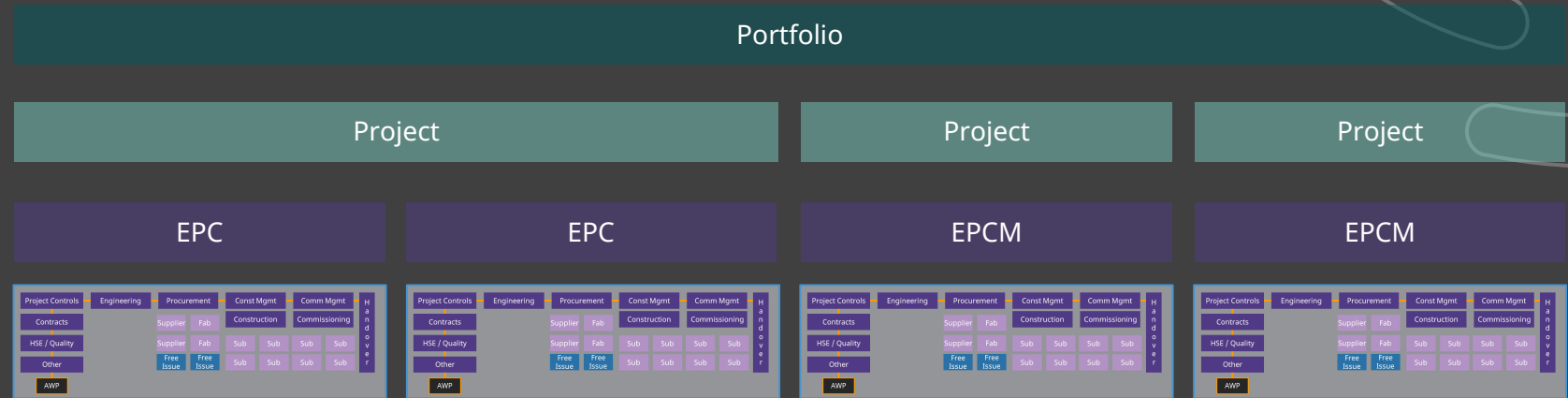
Why is AWP important for **the EPC**?

Safety	<ul style="list-style-type: none">• Planning for Safety – Assuring HSE risks have been controlled, and HSE constraints eliminated• Control of Work – Assuring permitting regime is applied.• Competency Verification – Assuring resources are deployed with appropriate qualifications and training.
Win Rate	<ul style="list-style-type: none">• Competitive Tenders – Stronger basis for lower estimates / faster schedules.• Demonstrate Reputation for Successful Delivery – backed up by data.• Competitive Advantage / Differentiation – clients expecting maximum leverage of project data for win/win outcomes.• Provide Transparency to the Client – clients expecting transparent performance management and proactive intervention
Margin & Cash Flow	<ul style="list-style-type: none">• Lump Sum Margin – via productivity, delivery assurance and minimal rework.• Incentive Attainment – via predictable cost, schedule, quality, and other delivery KPIs• Protect Margin via Scope Control – strong control of data provides clear support for variations and claims defense• Reduce Overhead / Indirects – via data driven approach / eliminating spreadsheets and data handover points
Learning	<ul style="list-style-type: none">• Enabling Knowledge Retention across disparate customer sectors• Mitigating for Resource Attrition / Departure• Lessons Learned / Risk Reduction• Data Normalisation for meaningful benchmarking / future estimates

AWP in the Owner

In the same way EPCs / EPCMs need to aggregate data across a variety of stakeholders... and for a variety of clients.

Owners need to do the same across a variety of EPCs... across different project types and contracting strategies.



Why is AWP important for **the Owner**?

Safety

- **Planning for Safety** – Assuring HSE risks have been controlled, and HSE constraints eliminated.
- **Control of Work** – Assuring permitting regime is applied.
- **Competency Verification** – Assuring resources are deployed with appropriate qualifications and training.

Competitiveness

- **Optimised Design** – Assuring resultant facility concept is not over-/under-designed for its use, while remaining operable, maintainable, reliable, etc.
- **Optimised Investment Alternative & Business Case** – reflecting outstanding risk and uncertainty profile.
- **Capital Intensity via Benchmarking** – cost / schedule / productivity Estimates in line with industry / regional benchmarks.
- **Optimized Resource Utilization** – optimal deployment of capital / human resources.

Predictability

- **Scope Definition / Change Prevention** – and associated optimised execution / contracting strategy.
- **Constraint Elimination & Resource Staging for Productive Execution**
- **Assuring Productivity / Course Correction** for Root Causes of Delay / Non-Productive Time
- **Project Performance** and Value-Focused Leading Indicators

Learning

- Enabling **Knowledge Retention for both Projects & Operations**
- Mitigating for **Resource Attrition / Departure**
- **Lessons Learned / Risk Reduction**
- **Data Normalisation** for meaningful benchmarking / future estimates

AWP & Digital Execution capability is **already** a key **differentiator / qualifier** of EPC capability

“The Role of the Owner” argument continues...

- **EPCs bringing their own systems and processes?**
 - EPC capability not always as advertised.
 - Too dependent on capability of individuals?
 - Owners should trust but verify... i.e. prequalify
 - How do Owners get the transparency they want, the predictability they need, and retain the knowledge they paid for?
- **Owners mandating their own systems and processes?**
 - Mitigates for variable EPC capability, but costs more / takes longer for EPC to learn new way of working.
 - Fundamentally erodes the value of EPC people / process / systems
 - Limits leverage of EPC experience from other projects

The best of both worlds:

- **EPCs acquire / build / sustain strong capability in digital delivery around:**
 - Capable People
 - Streamlined Processes
 - Enabling Technology
 - Strong Governance / Performance Management
 - Culture of Transparency and Win-Win
- **Owners:**
 - Prequalify EPC Capability in AWP & Digital Delivery
 - Include Detailed Data Requirements in Invitations to Tender / Head Contracts
 - Establish pipelines to EPC(M) data sources
 - Normalise incoming data to ensure it is retained as sustainable knowledge.

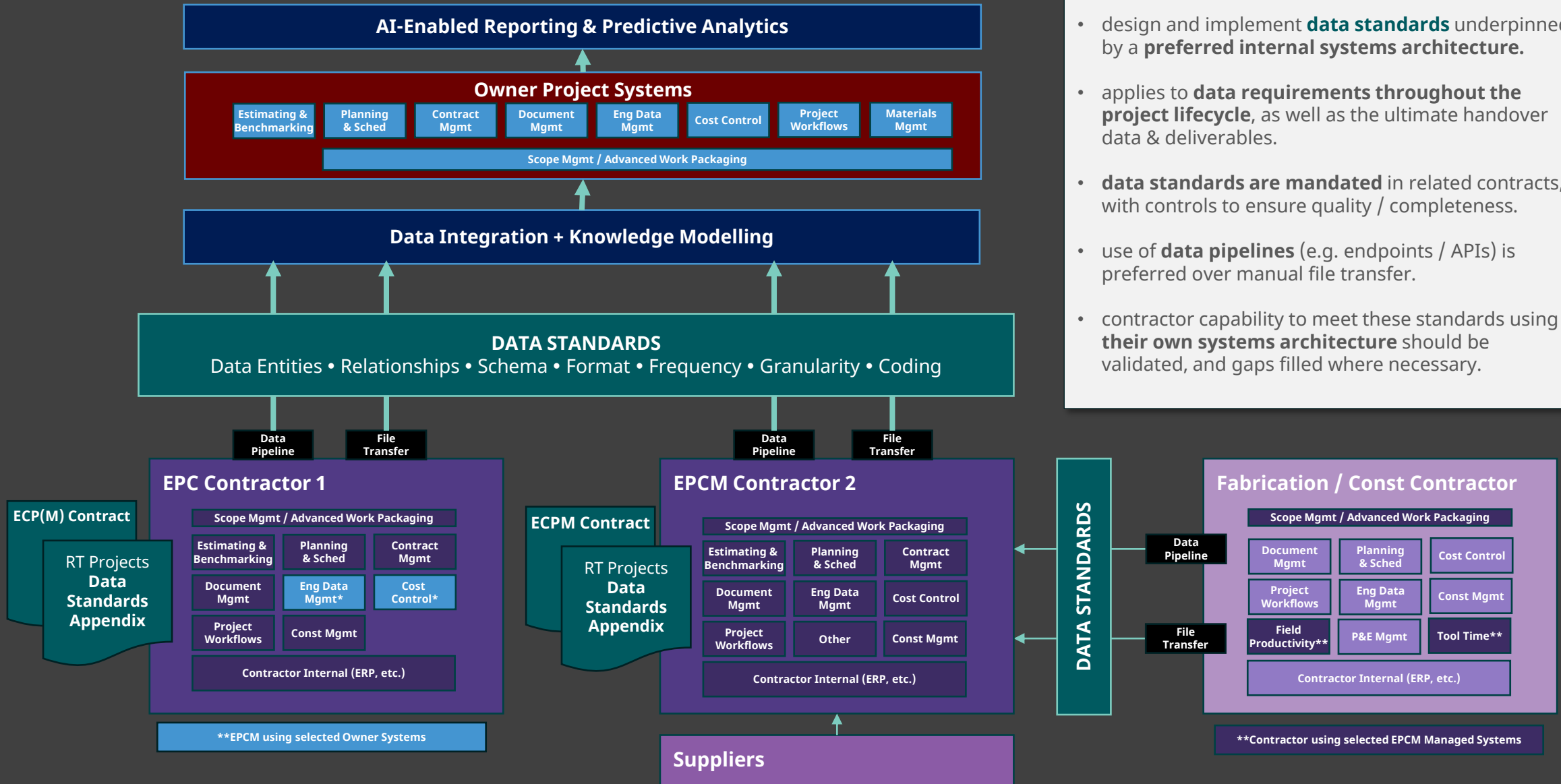
RioTinto

Rio Tinto is one of the world's largest metals and mining companies, investing in a large portfolio of complex capital projects around the world.

ProjectAI is supporting the Rio Tinto Projects team to deliver the phased implementation of AWP ... unlocking value for individual projects, and the portfolio as a whole.



Implementing AWP across a Global Portfolio



- design and implement **data standards** underpinned by a **preferred internal systems architecture**.
- applies to **data requirements throughout the project lifecycle**, as well as the ultimate handover data & deliverables.
- **data standards are mandated** in related contracts, with controls to ensure quality / completeness.
- use of **data pipelines** (e.g. endpoints / APIs) is preferred over manual file transfer.
- contractor capability to meet these standards using **their own systems architecture** should be validated, and gaps filled where necessary.

Amplifying AWP



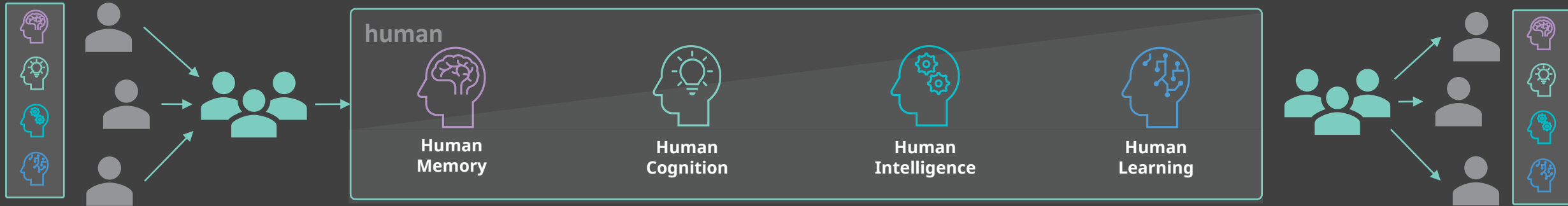
A new team comes together...

They learn a lot of things...

They create a lot of data...

The project ends...

Everyone leaves.



Cortex is a revolutionary **semantic knowledge platform** for the asset-intensive enterprise.

- By adding **meaning** to technical and commercial data, Cortex enables disparate data across a diverse portfolio to be integrated, normalised, optimised and personalised for the people who need it.
- This allows **data** to be converted into sustainable **knowledge**, making analysis more rapid, relevant and re-usable to optimise business performance in context.

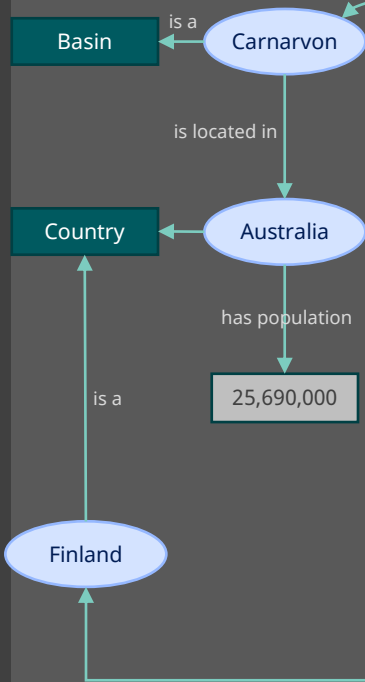


Cortex Knowledge Domains & Linked Data

Don't reinvent the wheel. Grow and re-use organisational knowledge with Cortex.

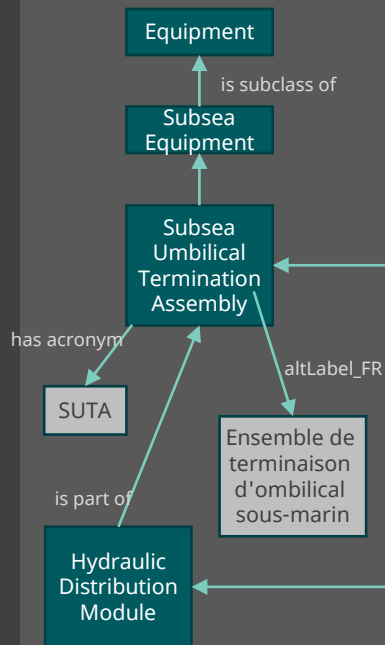
Global

Universal concepts, facts and relationships which apply to every industry.



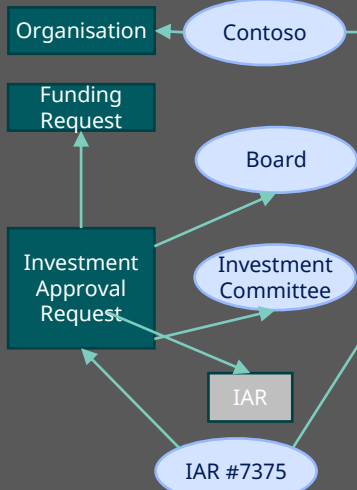
Industry

Concepts that are consistent across specific industries or sectors.



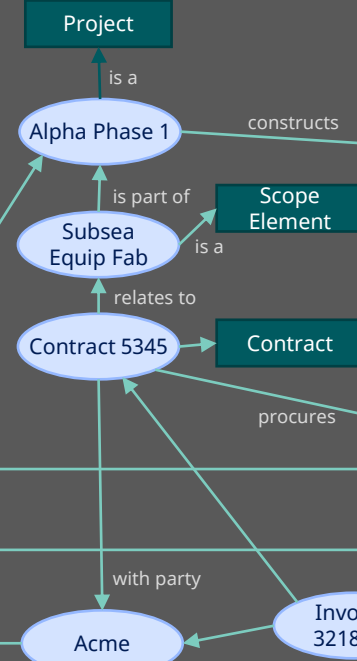
Company

Your organisation's value chain, terminology / taxonomy, processes and enterprise data.



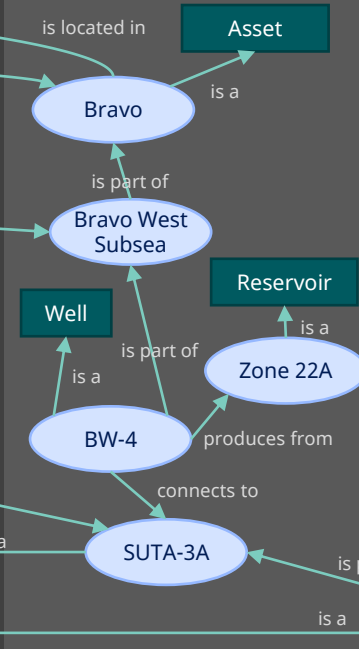
Project

Data describing the work being done to build / buy / modify an asset.



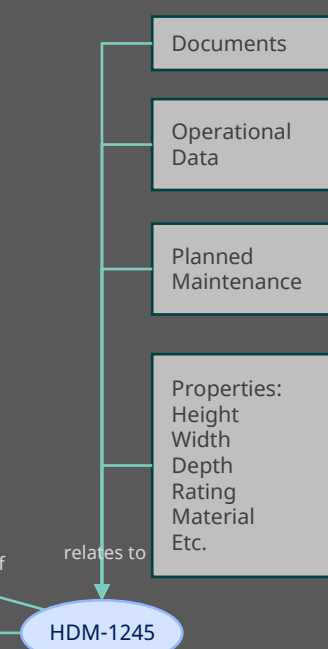
Asset

Data describing the decomposition of physical assets.



Object

Detailed information about specific asset components / tags / items.





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Panel / Q&A

Please wait for the microphone.
State your name and company.



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app to complete the survey.



Thank you!