

The Future of Construction and Engineering

"Why Project Organisations move from a scattered software landscape to one smart construction platform"



www.primaned.com



Project Controls
EXPO
London, UK

Primaned
DELIVERING PROJECT INSIGHT

Paul Vogels

Managing Director Primaned Benelux
Geschäftsführer Primaned DACH

Business Administration & Informatics

Born in 1982

As a real Xennial my motto is to motivate the generation X to let go of the past and go digital!



Vision

Success through full project insight.

Organisations are looking for ways to successfully deliver projects. Primaned is convinced that the field of Project Controls is the key to improving the project result. Primaned foresees that knowledge on this subject leads to the need to gain insight.

By professionalising in people, processes and tools, Project Controls will ensure complete project insight.

Improving project organisations is in our DNA.

Construction Industry Trends & Opportunities

Huge Industry



\$17.5 Trillion estimated
2030 global
construction market, up
85%

Source: Global “Construction 2030 – A
Global forecast for the construction
industry to 2030.” GCP / Oxford
Economics.

Continued Complexity



4 → 42% Projected growth
of **global mega projects**.
Total const. spend 2005-
2015

Source: “The art of project leadership:
Delivering the world’s largest projects.”
McKinsey & Company

Disruptive Technologies



Contech startups, \$4.34
billion invested in last 10
years. From \$3m to
\$1.05b annually.

Source: “The State of Construction
Technology” James LaSalle, Inc.

Industry Transformation



76% of E&C executives
plan to invest in at least
1 technology in 2022

Source: “2022 Engineering and
Construction Outlook” Deloitte

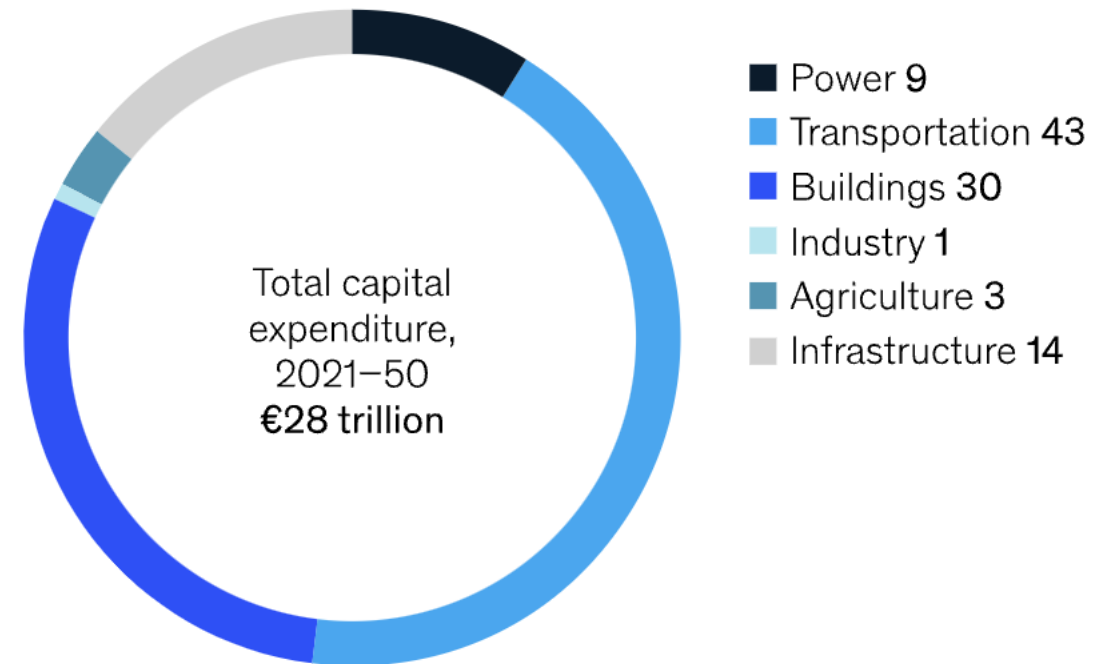
Construction Engineering Trends & Opportunities

€28T

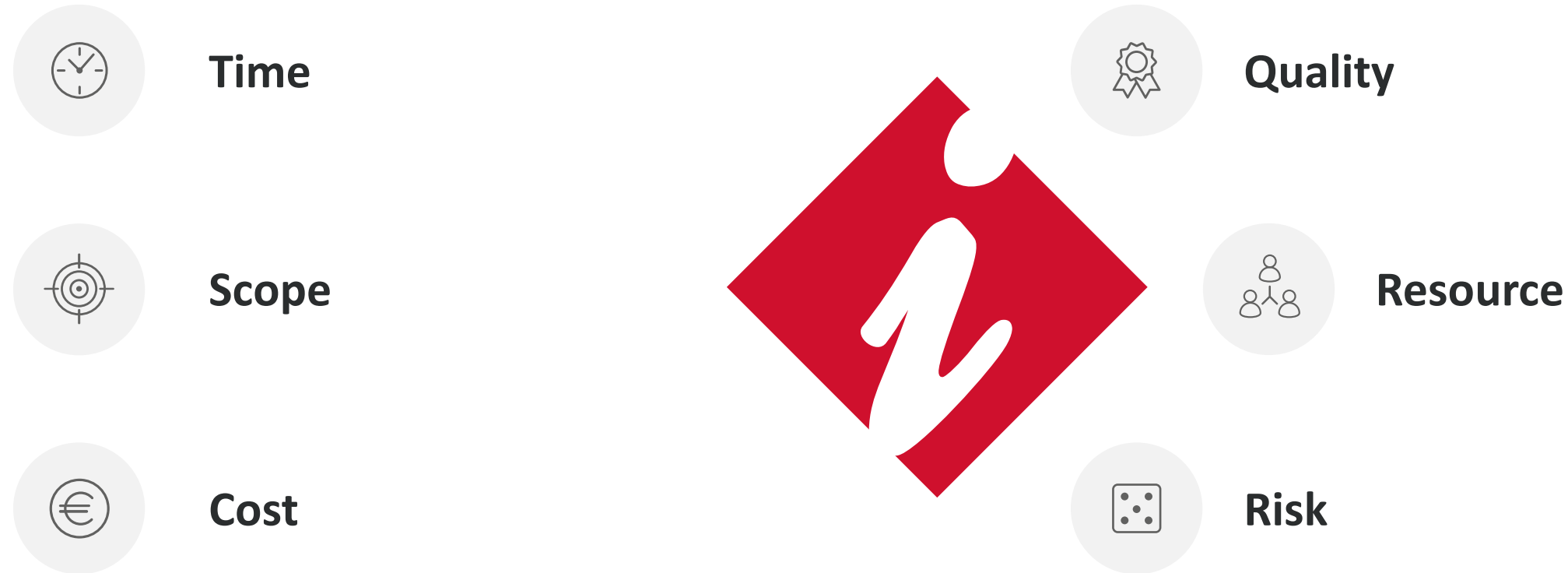
Analysis by McKinsey shows in Europe reaching net-zero would require investing an estimated €28 trillion in clean technologies and techniques over the next 30 years.

Source: "[How the European Union could achieve net-zero emissions at net-zero cost | McKinsey](#)"

% of total capital expenditure in EU-27, 2021–50



Triple Constraint naar PM STAR



The Project Management Institute (PMI) defines a project manager's job to deliver the project while successfully offsetting the six competing project constraints.

Knowledge Areas



Scope



Time



Cost



Risk



Resource



Change



Communication



Value



Organisation



Integration

Knowledge Areas



The strength of Project Controls lies in the integration of the various areas of knowledge.



There is more in the world than P6

Tools within the Construction Engineering Industry



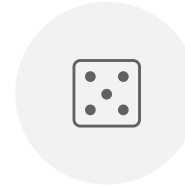
Scope



Time



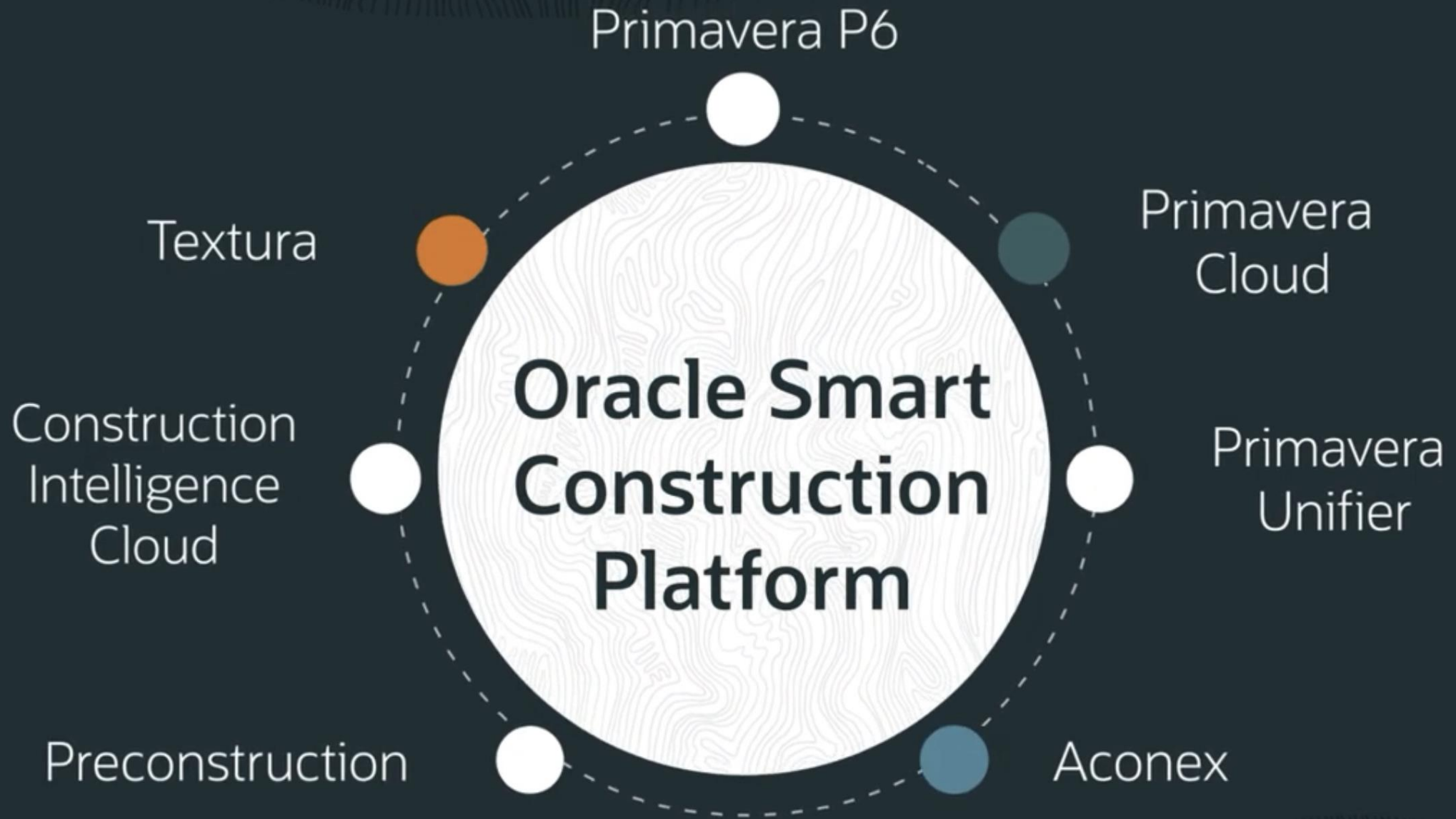
Cost



Risk

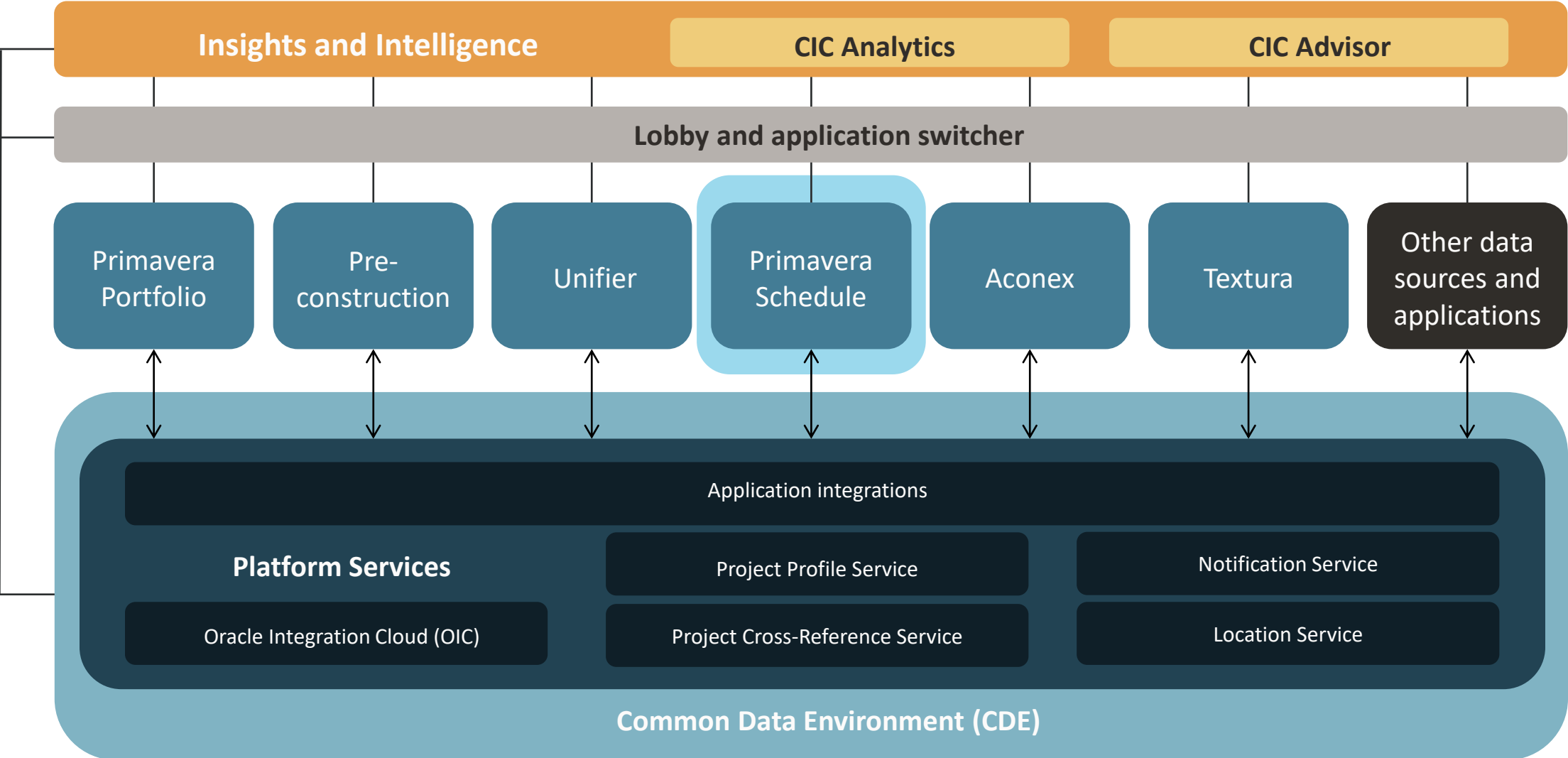


Resource





Oracle Smart Construction Platform- Our Products / Apps



The CDE is a collection of data sources & services that store and provide access to project & asset data.

Oracle Smart Construction Platform – The Lobby

☰

Construction and Engineering

?

JD

Projects

Last updated 2 minutes ago

Favorites 1

Status Active 15

Status Planned 13

30 Results

Get Latest Data

CardListDownloadGrid

ActiveMajestic

Five Star Demo

Aconex Demo (DEMO1)

jdunno

A

☆🔗

ActiveCEGBU

Five Star OPC

Primavera Cloud Primavera Cloud - Sales

jamie.dunno@oraclex.com

PC

☆🔗

ActiveMajestic

Horizon Demo

Aconex Demo (DEMO1)

jdunno

A

☆🔗

ActiveCEGBU

Sky Demo

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jamie.dunno@oraclex.com

PC

☆🔗

PlannedCEGBU

Innovation Lab

Primavera Cloud Primavera Cloud - Sales

jamie.dunno@oraclex.com

PC

☆🔗

ActiveCEGBU

Sky Demo

Aconex

jamie.dunno@oraclex.com

A

2 linked projects ☆🔗

PlannedCEGBU

Conference Center Humidifier Control Panel Replacement

Primavera Cloud Primavera Cloud - Sales

jamie.dunno@oraclex.com

PC

☆🔗

ActiveCEGBU

Union Station Rehab

Primavera Cloud Primavera Cloud - Sales

jamie.dunno@oraclex.com

PC

☆🔗

PlannedCEGBU

Branch Library Parking Lot Improvements

Primavera Cloud Primavera Cloud - Sales

jamie.dunno@oraclex.com

PC

☆🔗

ActiveCEGBU

St. David Medical Center

Primavera Cloud Primavera Cloud - Sales

jamie.dunno@oraclex.com

PC

☆🔗

ActiveCEGBU

Wilford Furniture Manufacturing - East Building (50)

Primavera Cloud Primavera Cloud - Sales

jamie.dunno@oraclex.com

PC

☆🔗

PlannedCEGBU

LSAMM Major Renovations

Primavera Cloud Primavera Cloud - Sales

jamie.dunno@oraclex.com

PC

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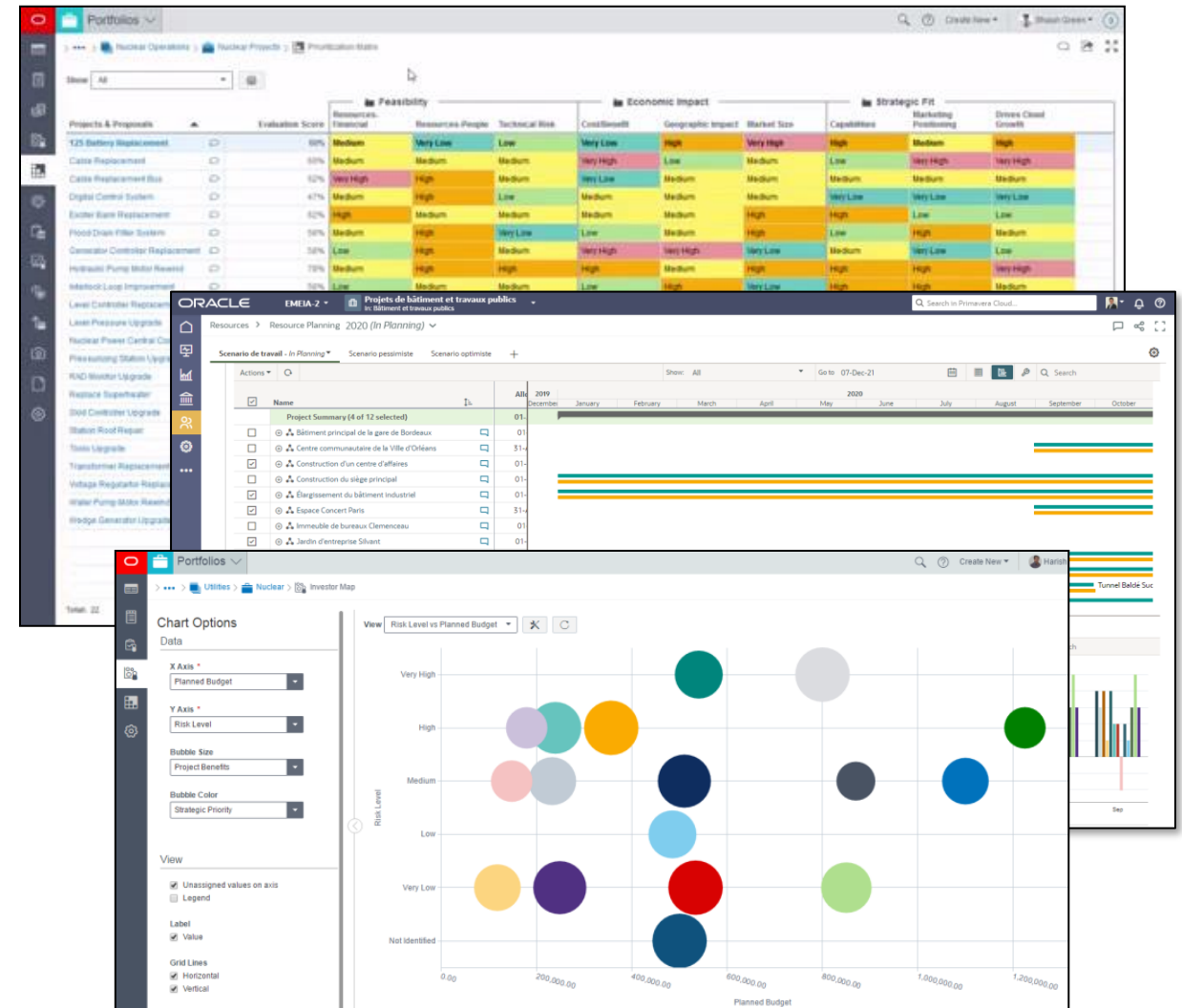
Portfolio Management



Align investments with operational strategies.

Key Features & Benefits

- Project initiation to review proposals for new projects using customized workflows.
- Prioritize and select the right projects or proposals based on the evaluation matrix and quantitative data.
- Capital budget planning to time-phase all project investments within a portfolio.
- Summary scorecards, dashboards and investor maps to monitor portfolio performance.



Portfolio Management



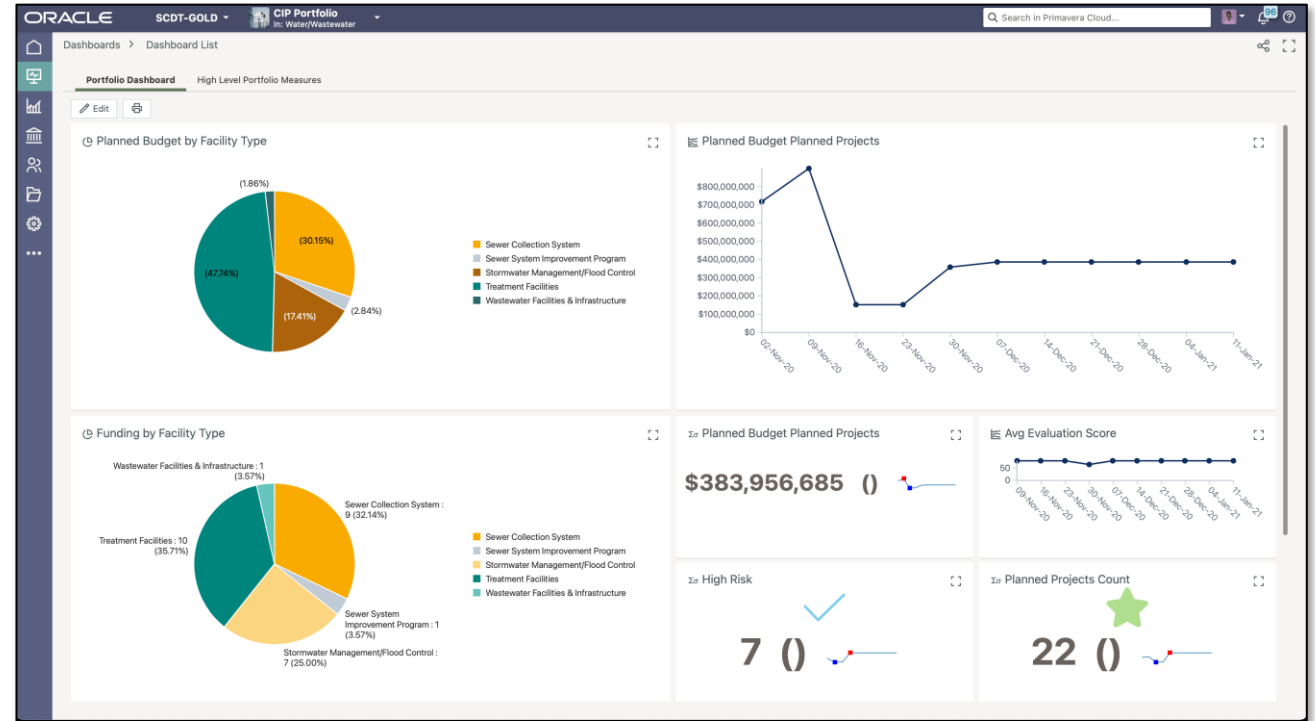
Monitor and Control

Portfolio Monitoring

- Configurable quantitative targets to measure performance against configurable scorecards

Benefits:

- Better predictability of project outcomes
- Health of your portfolios, and continuous alignment to strategic objectives



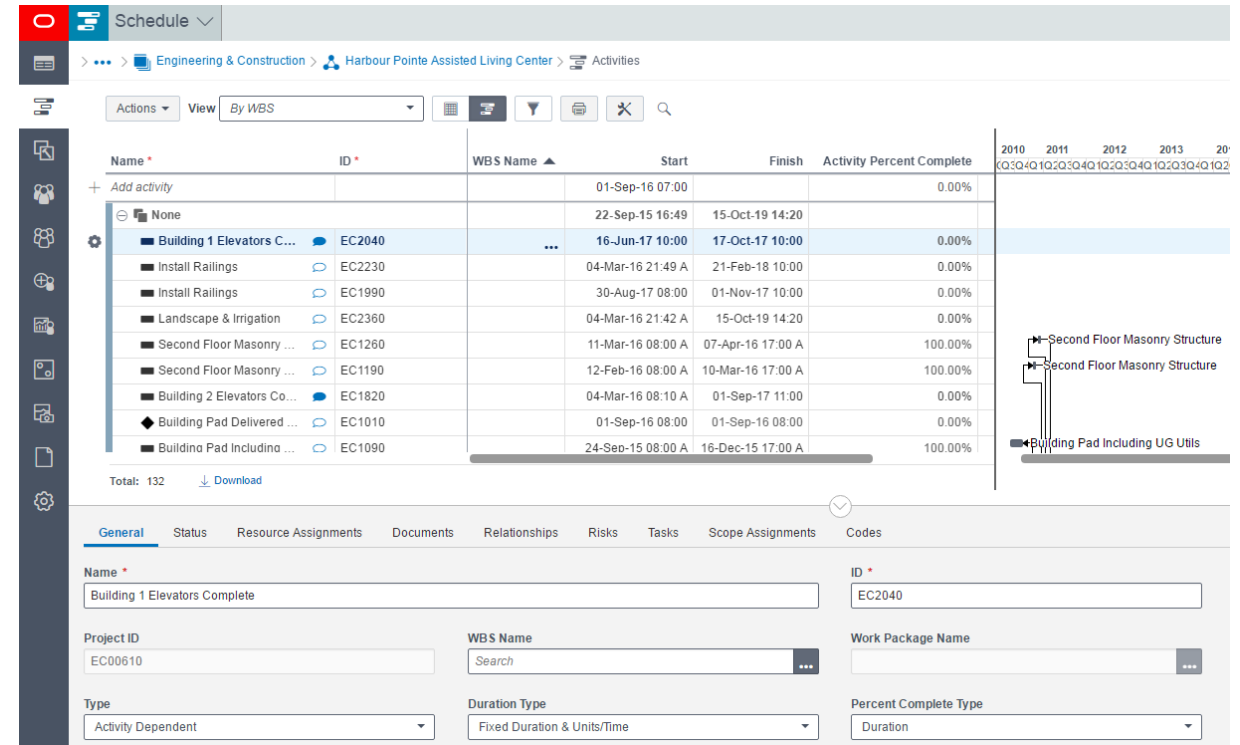
Schedule (Time)

Risk



Key Features & Benefits

- Scheduling by the Critical Path Method.
- Visualize your project timeline by configurable tables and Gantt charts.
- Standard and custom project KPI's will lead to improved prioritization and decision-taking.
- Built-in bi-directional integration with Primavera P6 Schedule.



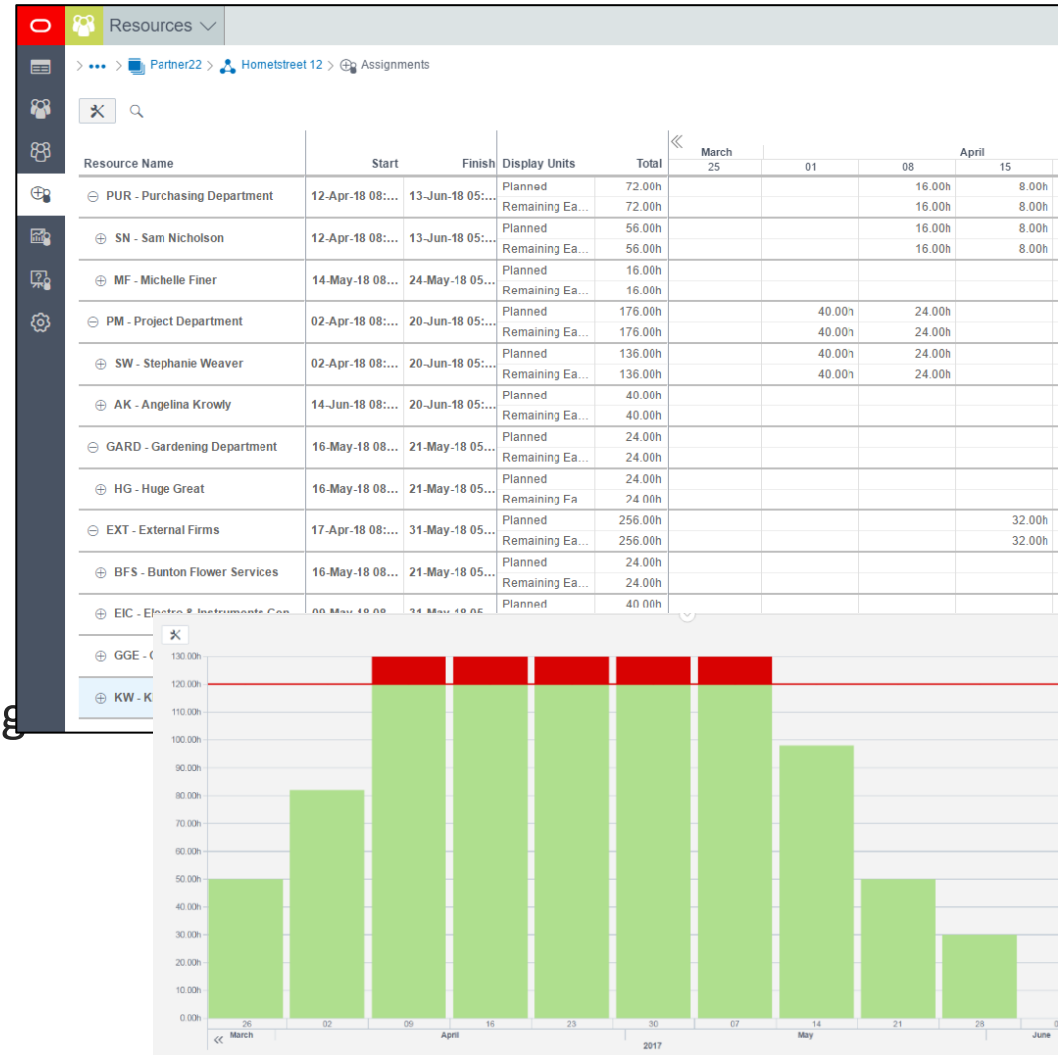
Resources



Project and enterprise resource management

Key Features & Benefits

- Define resources on project and enterprise level.
- Optimization of the capacity planning of resources on enterprise level.
- Dynamic and time-phased resource budgeting by resource loading the schedule.
- Resource & role leveling to solve conflicts.
- Time-distributed labor budget (S-curve in hours) to monitor actual vs. budgeted hours



Tasks (Lean or Last Planner Scheduling)



Lean task management

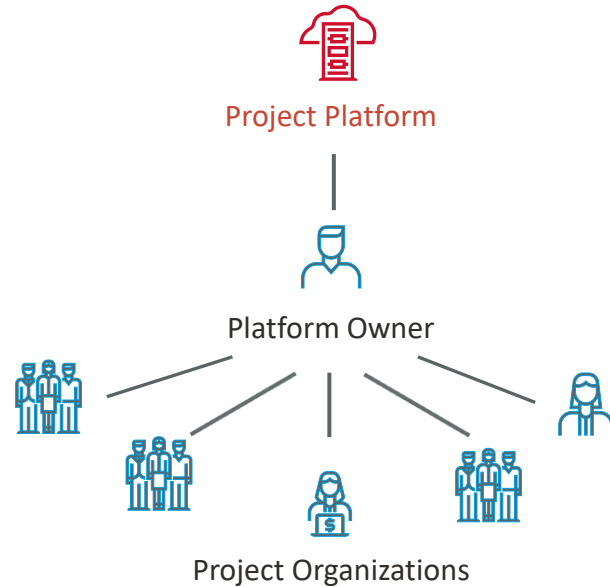
Key Features & Benefits

- Drag-and-drop virtual planning board functionality to plan project tasks.
- Unique integration of task management with CPM scheduling
- Commitment of team members to the completion of tasks will lead to increased buy-in in planning.
- Tracking task performance and reasons missed using predefined real-time charts.

The screenshot displays the Project Controls software interface. The main view is a task planning board for the period September 18 - 24, 2016. The board shows tasks as colored blocks on a timeline, with a list of tasks on the left side. A modal window titled 'Task - TPS' is open, showing details for a task named 'A07.S.1060-Form, Rebar & Place Deck - Bldg A, Level 07'. The modal includes a 'Commitments' tab and a 'Reasons Missed' section. Below the modal, a table lists tasks with columns for Task Name, Company, Assigned User, Status, Duration, Due Date, and Completed Date.

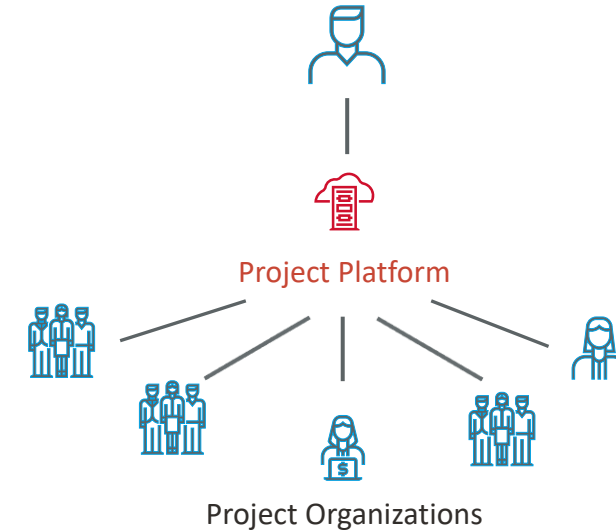
Task Name	Company	Assigned User	Status	Duration	Due Date	Completed Date
Add task	Prime Company	fdebouche	New	1d		
Drawing	Prime Company	fdebouche	Committed	2d	29/03/2017	
Data Sheet	Prime Company	fdebouche	Committed	1d	27/03/2017	
Initiation	Prime Company	fdebouche	Completed	1d	21/03/2017	21/03/2017
TPS	Prime Company	fdebouche	Committed	1d	31/03/2017	

Data Ownership – With ultimate collaboration, everybody wins



- **Single Control Platform = Failure**

- Project teams use redundant systems due to lack of trust
- Platform “owners” create a false sense of complete and accurate data
- The Project – delays and cost overruns due to inefficiency and error



- **True Project Platform = Success**

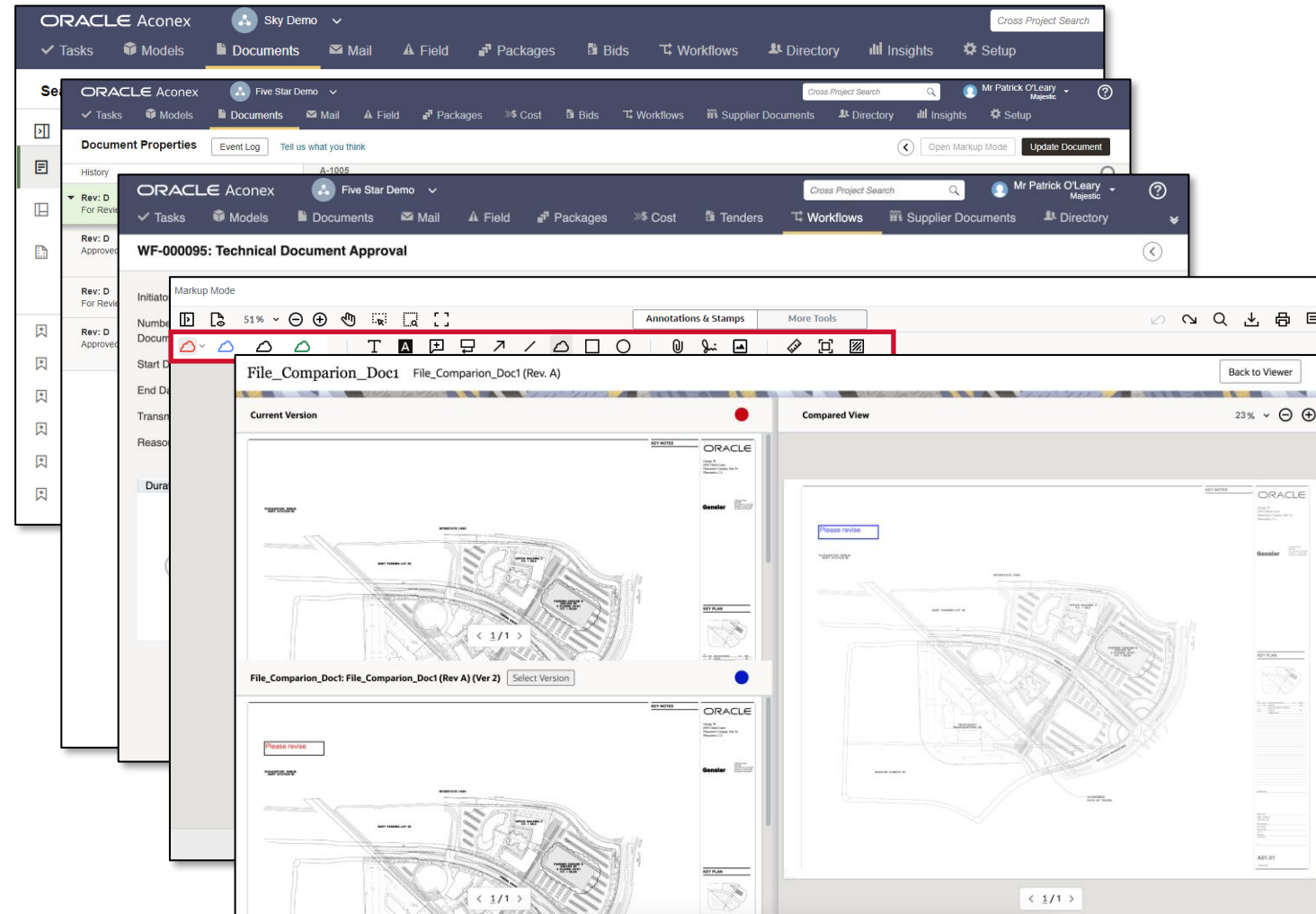
- Project teams own and control their data
- Owner has complete project record for smooth transition to asset operations
- The Project – quality driven by efficient collaboration

Secure Document Management

- A single source of truth for the entire project-team

Manage documents without limits.

- A single document register for the entire project team – Google-like search bar and configurable metadata fields, no folders
- No limits on document numbers and sizes
- Strict version control and online viewer
- Easy-to-configure workflows to automate the review/approval cycles
- Markup tools and file comparison
- **Benefits:**
 - Eliminates the risks of multiple data stores and duplication of documents (no folders)
 - Always current – Everyone uses the latest information
 - Easier to automate, track and control processes with custom workflows and packages

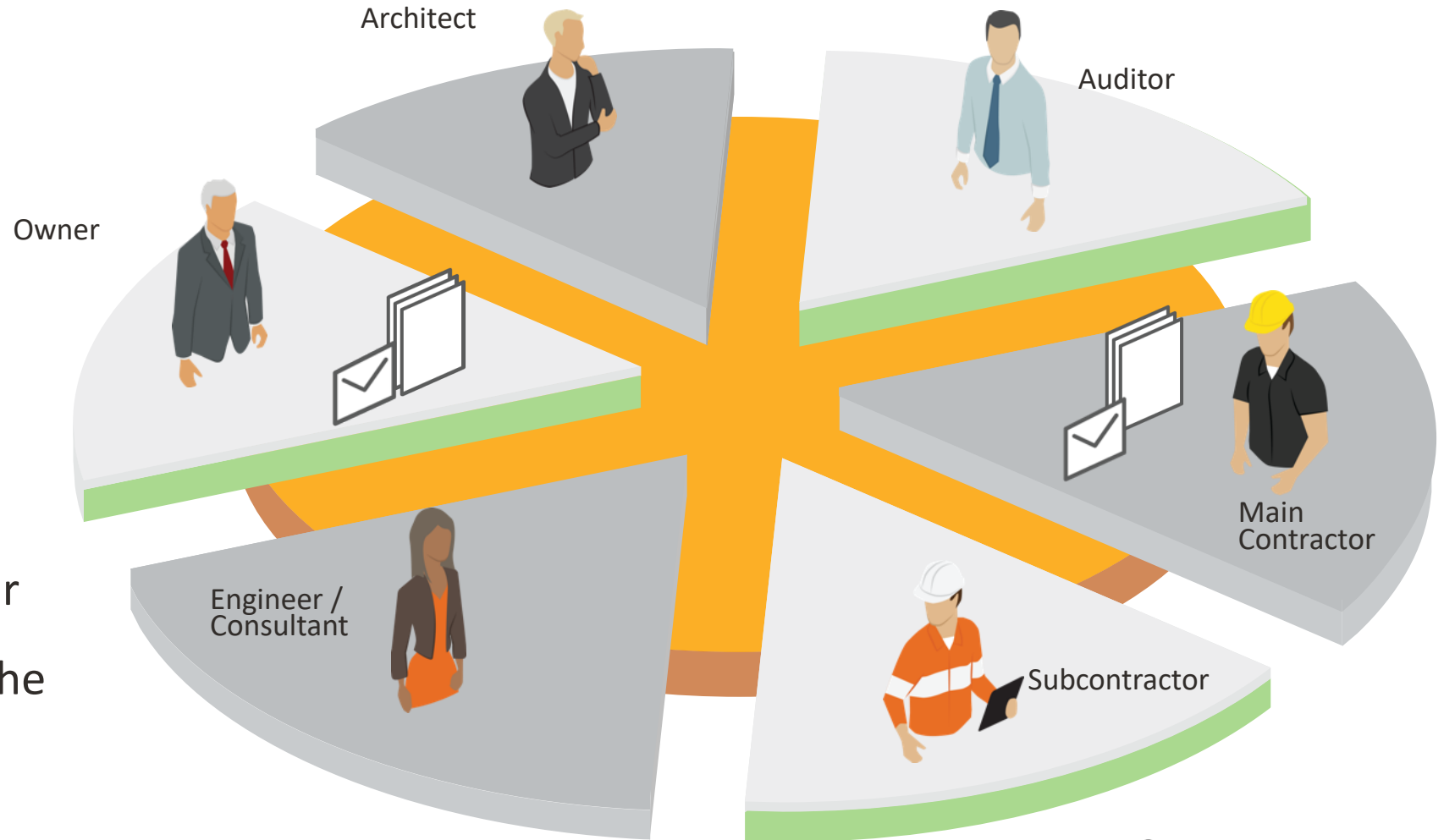


A True Project Collaboration Platform

- Concept of Neutrality

**SINGLE
SECURE
PLATFORM**

Every organization has their
own private workspace on the
cloud

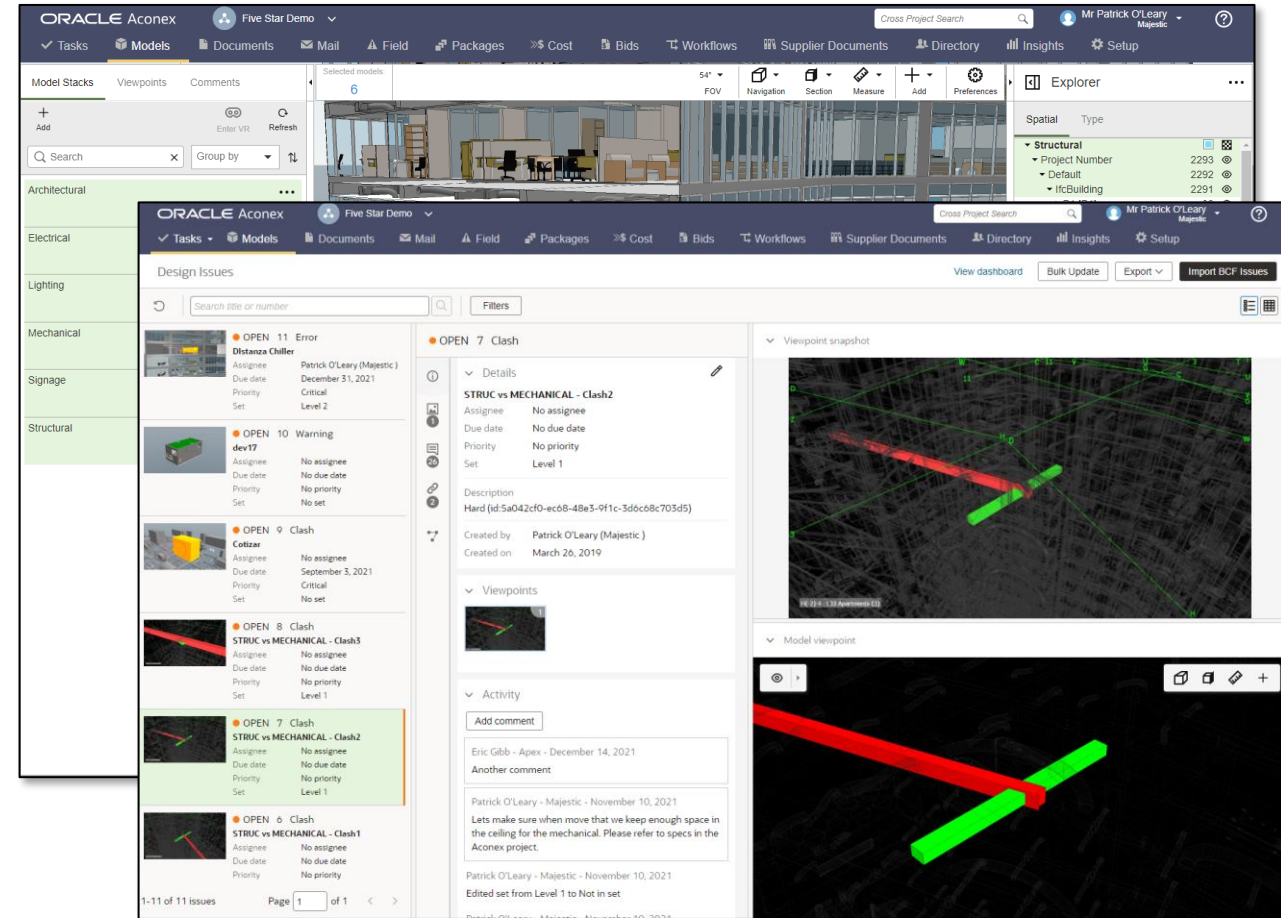


BIM Model Coordination

- Simplify model coordination, connecting teams, models, and project data

Collaborative Design – BIM for everyone

- Design Neutral – Import and open IFC, Revit and BCF files directly within Aconex (Autodesk plugins)
- Navigate, section, measure and view object properties
- Collaborate within the model with mail processes and link documents
- A single platform to raise, communicate, and manage the coordination process
- **Benefits:**
 - **Broader team access – No installation, no specialized software required**
 - **Full collaboration across project teams – Reduce errors and costly risks of rework**
 - **Faster model process cycle times and complete visibility to all comments, changes and associated costs**
 - **Increased compliance with BIM standards**



BSI Kitemark™
certification for BIM
software
Trusted software to embed resilience and best practice in BIM

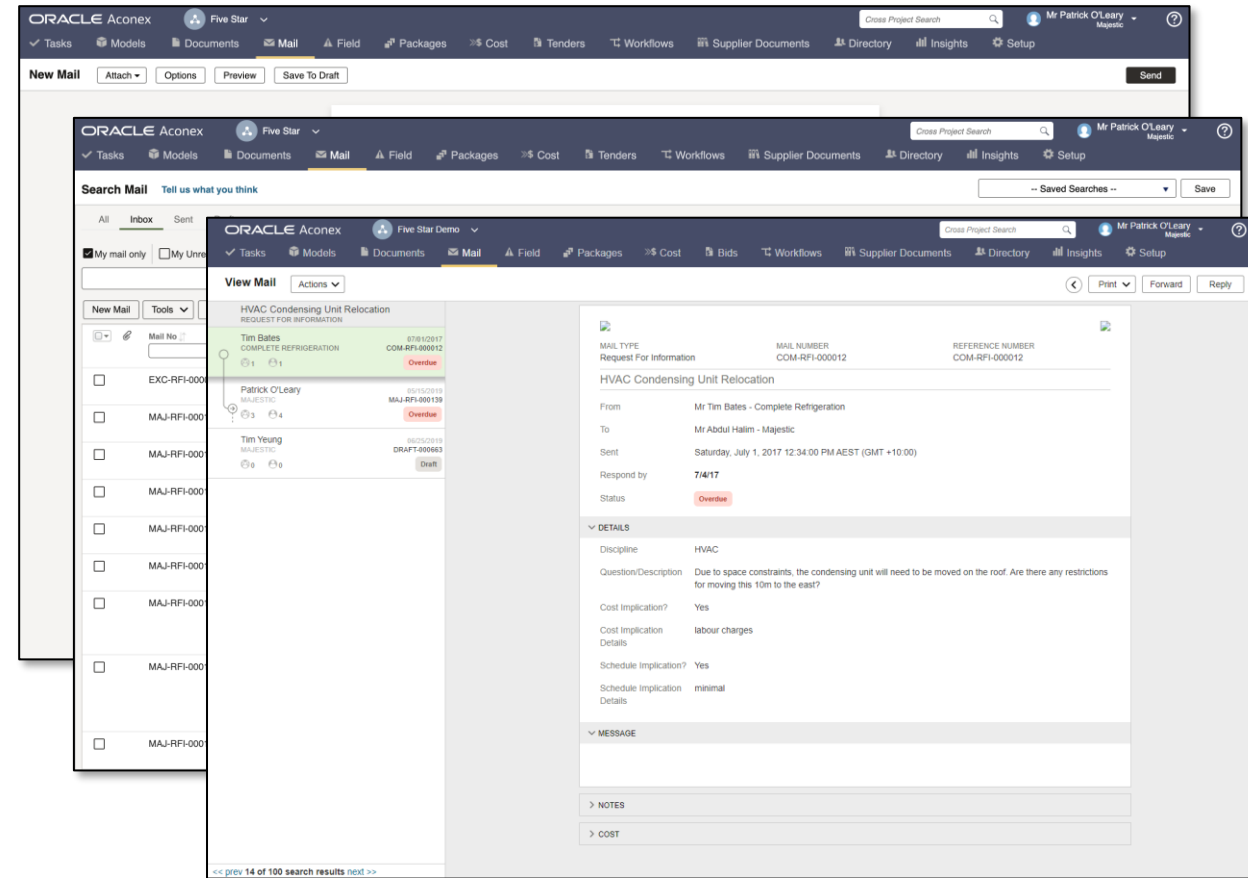


Automate and standardize business processes

- Highly configurable process management

Advanced Communication and Forms

- Digitalize the main communication processes with configurable forms and routing rules
Ex: RFI, CR, Design Query, etc..
- All documents, correspondence and decisions are captured in one system – a complete project record
- Mail threading tracks process flows and decisions – Nothing can be deleted or altered post the fact
- **Benefits:**
 - **Get the right information to the right people**
 - **Faster process turnaround – Easily track process communications, keep up to date on progress and avoid bottlenecks**
 - **Unalterable audit trail – Supports applicable regulatory compliance**
 - **Minimize exposure to risk and reduce costly and lengthy disputes**



“Aconex enabled us to cut RFI review cycle times in half.”

Bindu Sunil, Lead Document Controller, BAM International

Field



Field management

Key Features & Benefits

- Collaboration between project management and on-site team members.
- Manage issues based on uploaded drawings.
- Manage quality inspections, punch lists and commissioning steps.
- Store daily reports within the centralized database.
- Mobile access for on-site collaboration.

The screenshot displays the Prime Field software interface. The top navigation bar includes the Prime Field logo, a search bar, and user information (Jim Taylor). The main content area shows a list of inspections for the 'City Center Office Building'. The table below represents the data shown in the interface:

ID	Area	Description	Scheduled For	Type	Status	Open Issues	Total Issues	Reinspections
123	Main Facility/Item G/200	Above Ceiling Close-in	12-08-2016, 12:00	QA/QC	Open	Acme, Sam Stevens	110	0
45	Main Facility/Item G/200	Sample PDF	12-08-2016, 12:00	QA/QC	Open	Acme, Jill Adams	20	0
8734	Main Facility/Item G/200	Extended Sample Inspection 1	12-08-2016, 12:00	QA/QC	Assigned	SmithCo, Jane Doe	140	0
234	Main Facility/Item G/200	Sample Description	12-08-2016, 12:00	Punchlist	Closed	Acme, Sam Stevens	232	10
234234	Main Facility/Item G/200	Sub Floor Framing	12-08-2016, 12:00	Punchlist	Open	ChillCo Inc., Billy Nye	10	3
435345	Main Facility/Item G/200	Hydronic Installation	12-08-2016, 12:00	Punchlist	Assigned	Acme, Jill Adams	1,203	3
6786	Main Facility/Item G/200	Concrete Forms	12-08-2016, 12:00	Safety	Closed	ConCorp, Rock Slab	24	12
324	Main Facility/Item G/200	Extended Sample 2	12-08-2016, 12:00	Safety	Assigned	Ducting Engineers, Sue Bing	132	12
234234	Main Facility/Item G/200	Ducting Manifold	12-08-2016, 12:00	Safety	Closed	Ducting Engineers, Sue Bing	112	12

The bottom section of the interface shows the details for inspection 234, including the inspector (John Doe), status (Closed), and a list of attachments (15), issues (3), and linked inspections (3). A tablet in the foreground displays the mobile version of the app, showing a drawing with a red circle highlighting a specific area and a sidebar with fields for Description, Status, Area, Item, Standard Issue, Correction Info, Responsible Party, Start by, Finish by, and Corrective Action.

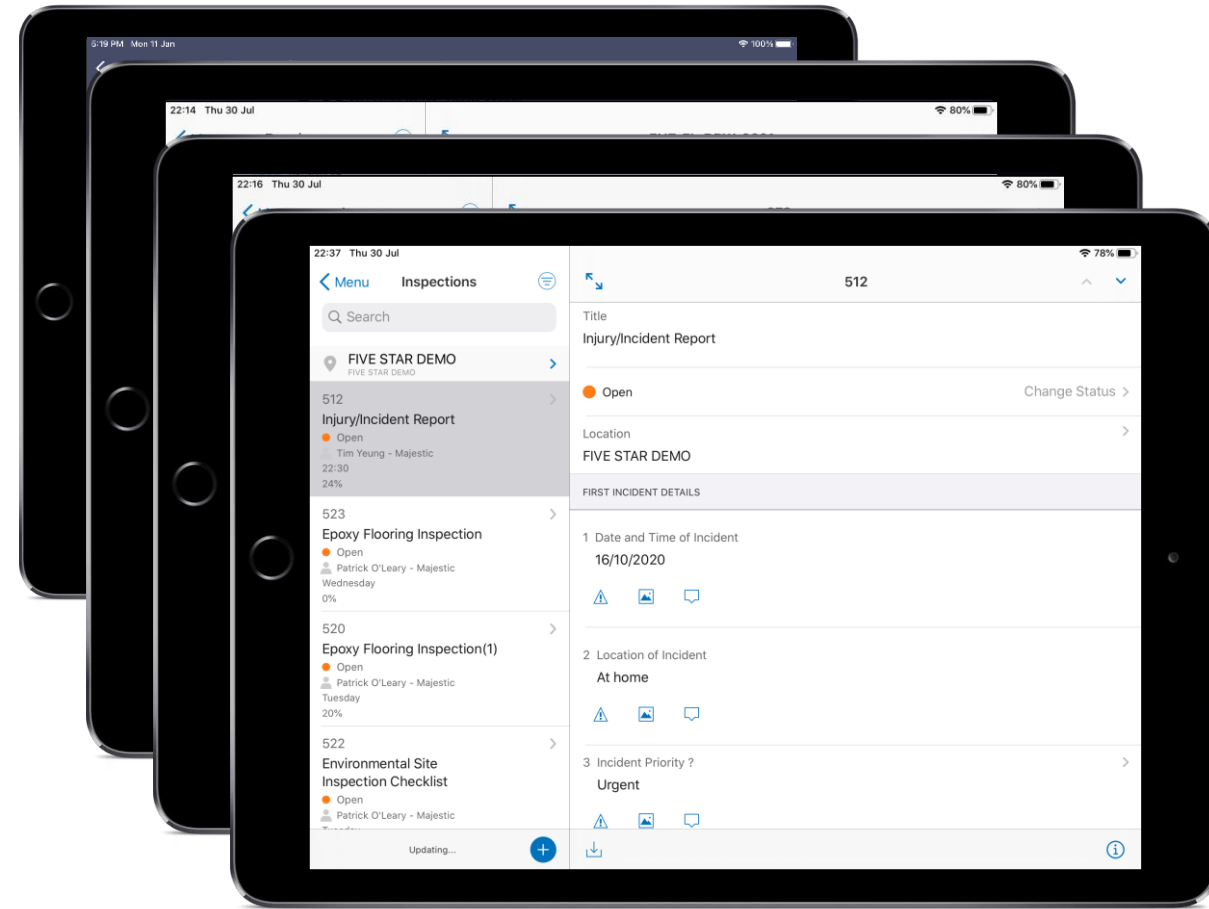
Field



Aconex Jobsite Mobility

Key Features & Benefits

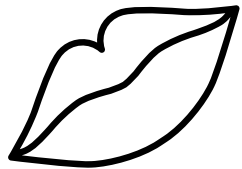
- Capture, track and share project information, from anywhere on the jobsite (mail processes)
- Access to the latest set of drawings, BIM models and documents, and manage mail processes (RFI for example)
- Manage issues and punch lists (including photos)
- Digitalize your inspection processes (checklists and PDFs)



Handsfree

- The best tools
- Safety
- Covered
- If you can do it handsfree, we should

KISS



Data Strategy

Connect and Empower

In-App Reports & Dashboards

Accurate **operational reports and dashboards**
to enable data driven decision making



Aconex



Primavera Cloud



Primavera P6



Textura



Unifier



Partners / 3rd
Party

Construction Intelligence Cloud (CIC) Service

AI/ML/BI Platform

CIC Advisor

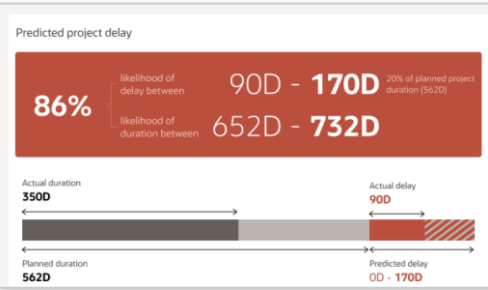
AI powered application for predictive intelligence & recommendations to transform project delivery

CIC Analytics

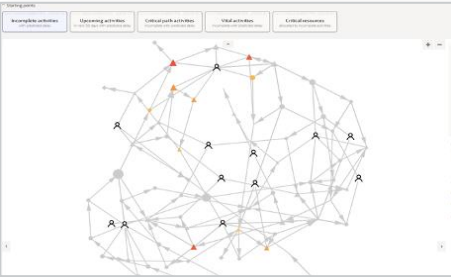
Industry solution to track KPIs, trends, identify outliers, and provide insights with an intuitive UI and advanced visualizations

Rethink project delivery with CIC Advisor

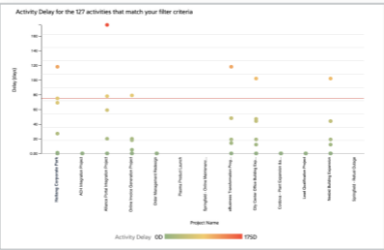
Leverage data from past projects to provide predictions that enable fast, proactive decisions



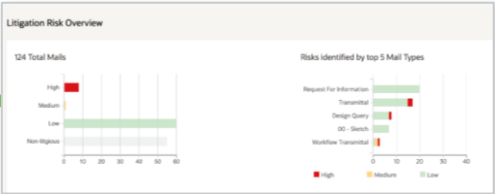
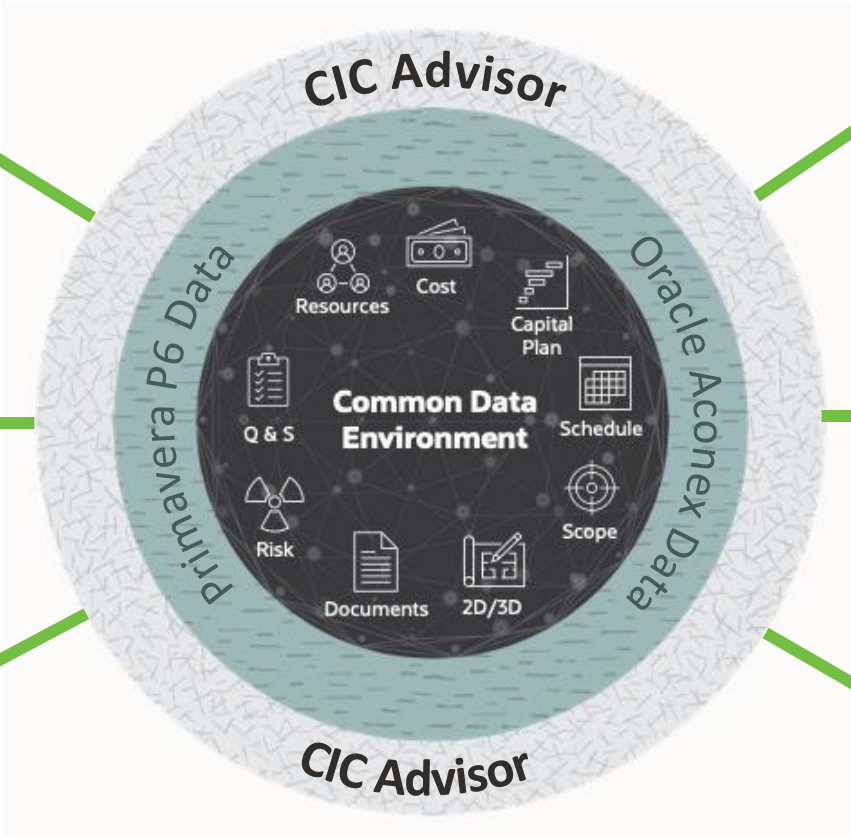
Predict and remedy schedule delays



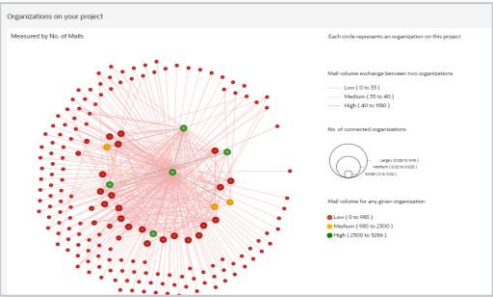
Evaluate project network performance



Benchmark past projects to drive improvement



Uncover potential litigation, change events, or H&S risks



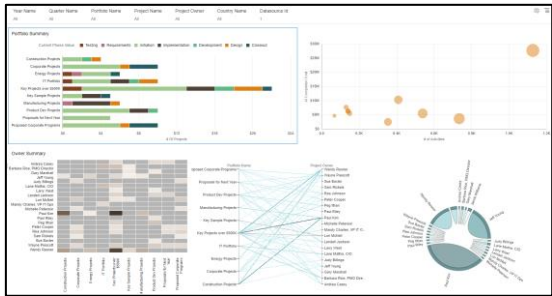
Identify supply chain bottlenecks and issues



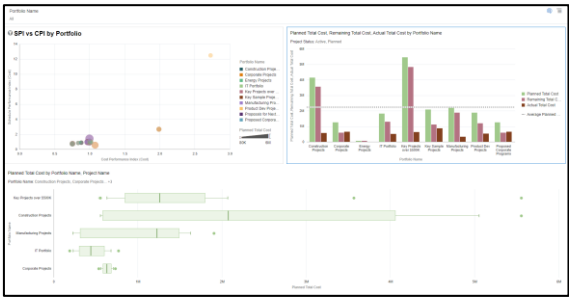
Proactively find and manage design risks

CIC Analytics

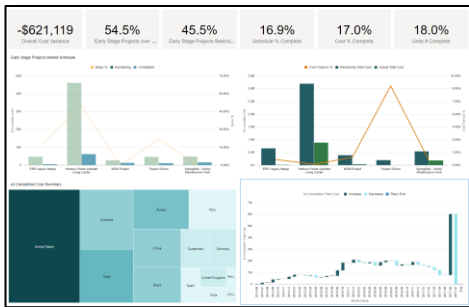
Leverage industry best practices to drive your business forward



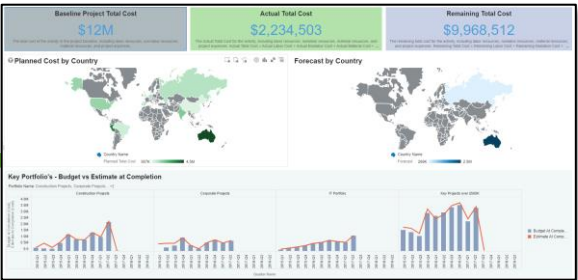
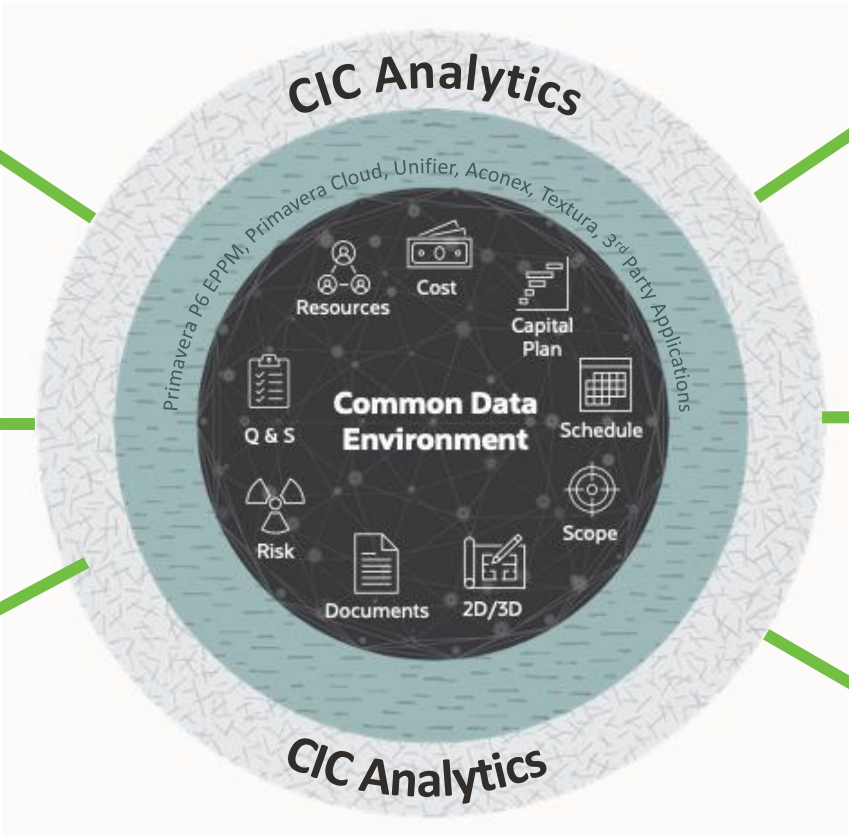
Portfolio Analysis



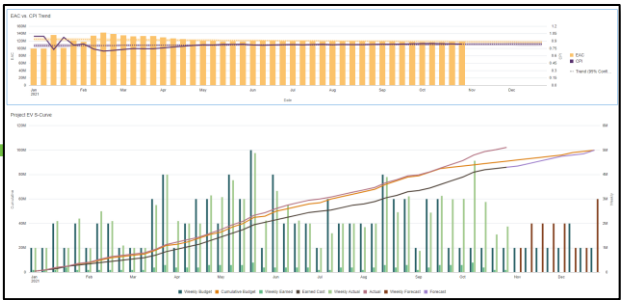
Identifying Outlier Projects



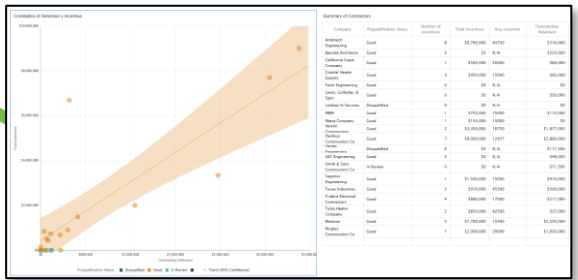
Schedule and Cost KPIs



Cost KPIs

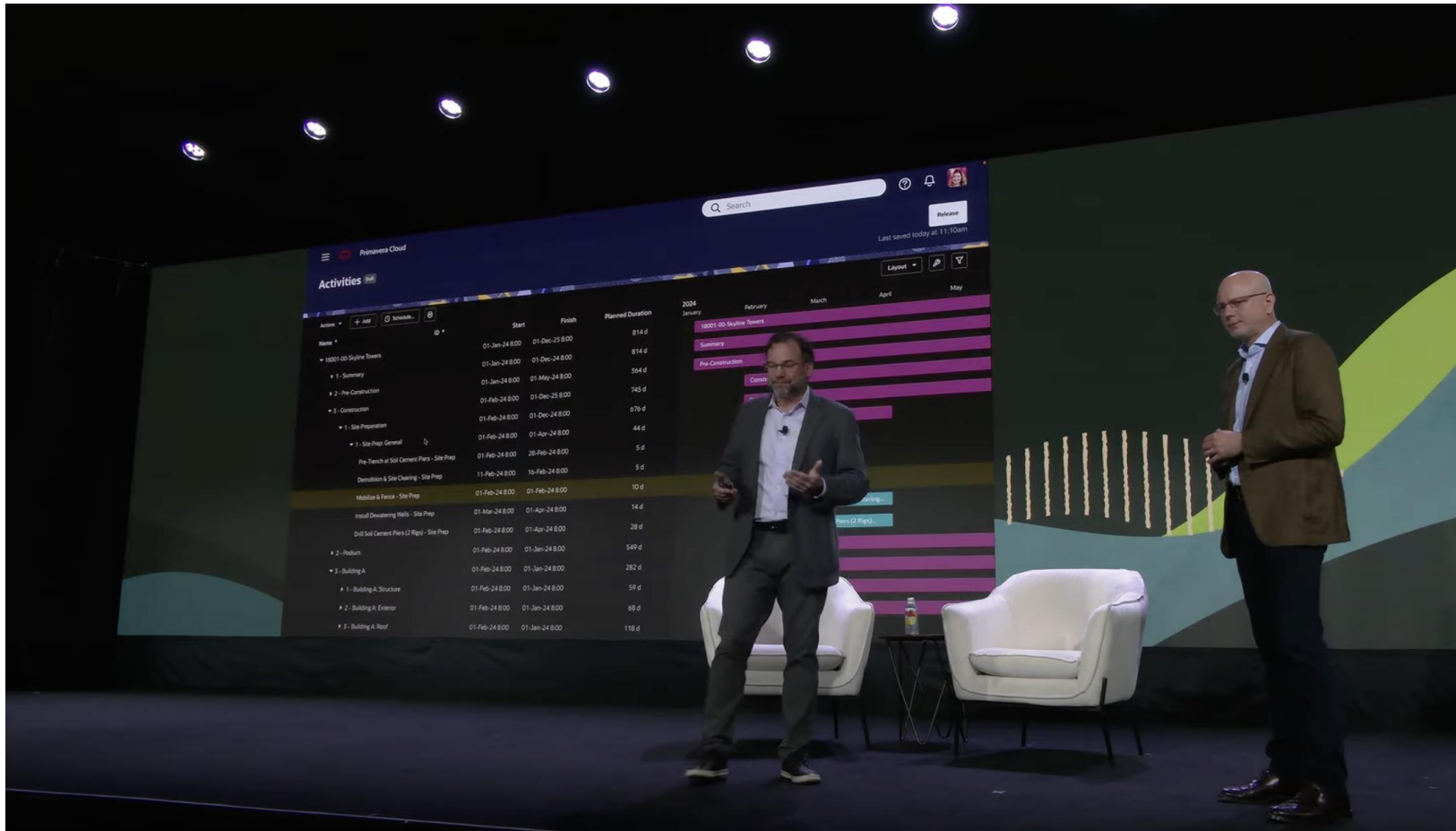


Tracking EV, EAC and SPI/CPI Curves



Contractor Financials

Adding Artificial Intelligence to Smart Construction (OPC)



Ambition: Project Controls in the Boardroom





THANK YOU