

OCTOBER 25, 2023

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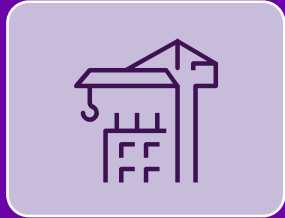
# Evolving AVEVA's project execution: Enhancing capital project success

Jeff Bashir, Director Project Execution Portfolio - AVEVA

**AVEVA**

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# Agenda



CAPEX PROJECTS



AVEVA IN PROJECT EXECUTION SPACE



QUESTIONS

# The capital projects market is on fire

**\$5.7T**

Annual global  
CAPEX spending

**+\$3.5T**

Additional annual spending  
to reach net zero

*Source: McKinsey Global Institute*



# The painful history of major capital projects

**20**

Months over schedule

**80%**

Over budget

Source: McKinsey Global Institute

WHAT FACTORS INFLUENCE YOUR ORGANIZATION'S ABILITY TO DELIVER CONSTRUCTION-RELATED PROJECTS ON TIME AND ON BUDGET?  
(TOP FIVE)



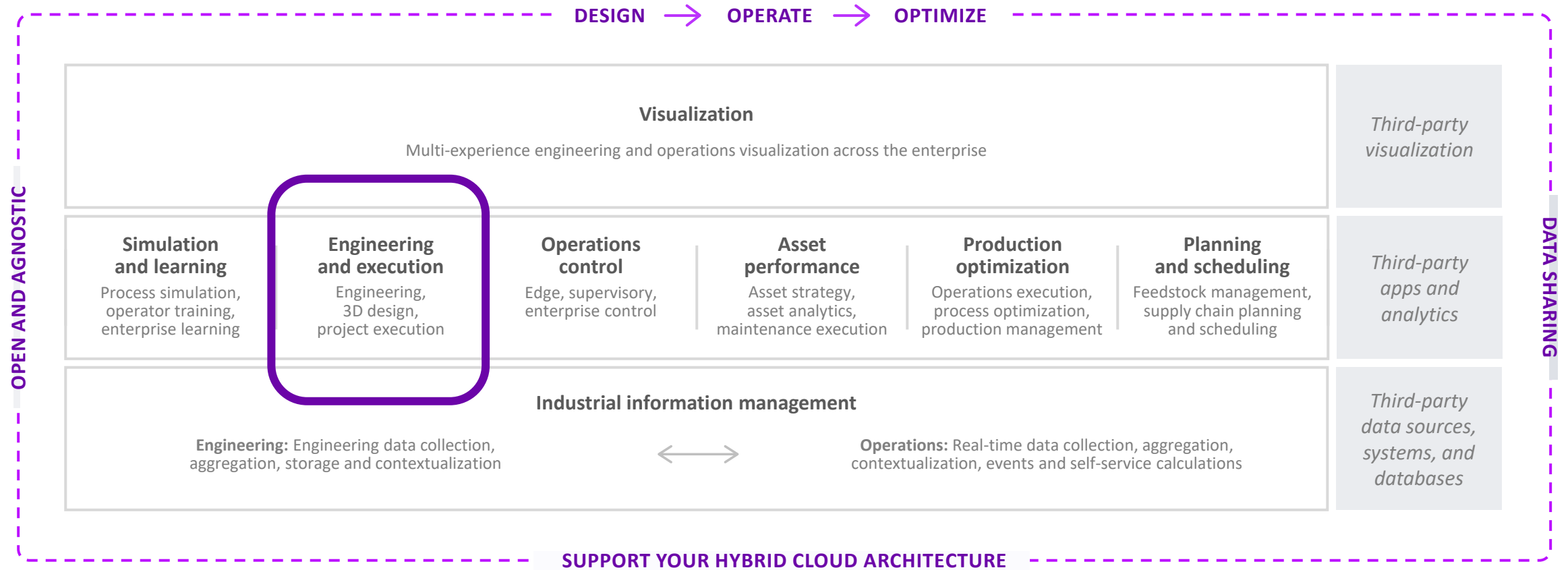
Some of the answers from a survey of 300 large-enterprise capital project and construction professionals, conducted over six weeks in February and March 2021, from the following industries: Power and utilities, infrastructure, mining and minerals, water and waste, oil, gas, and chemicals. *Source: LinkedIn*



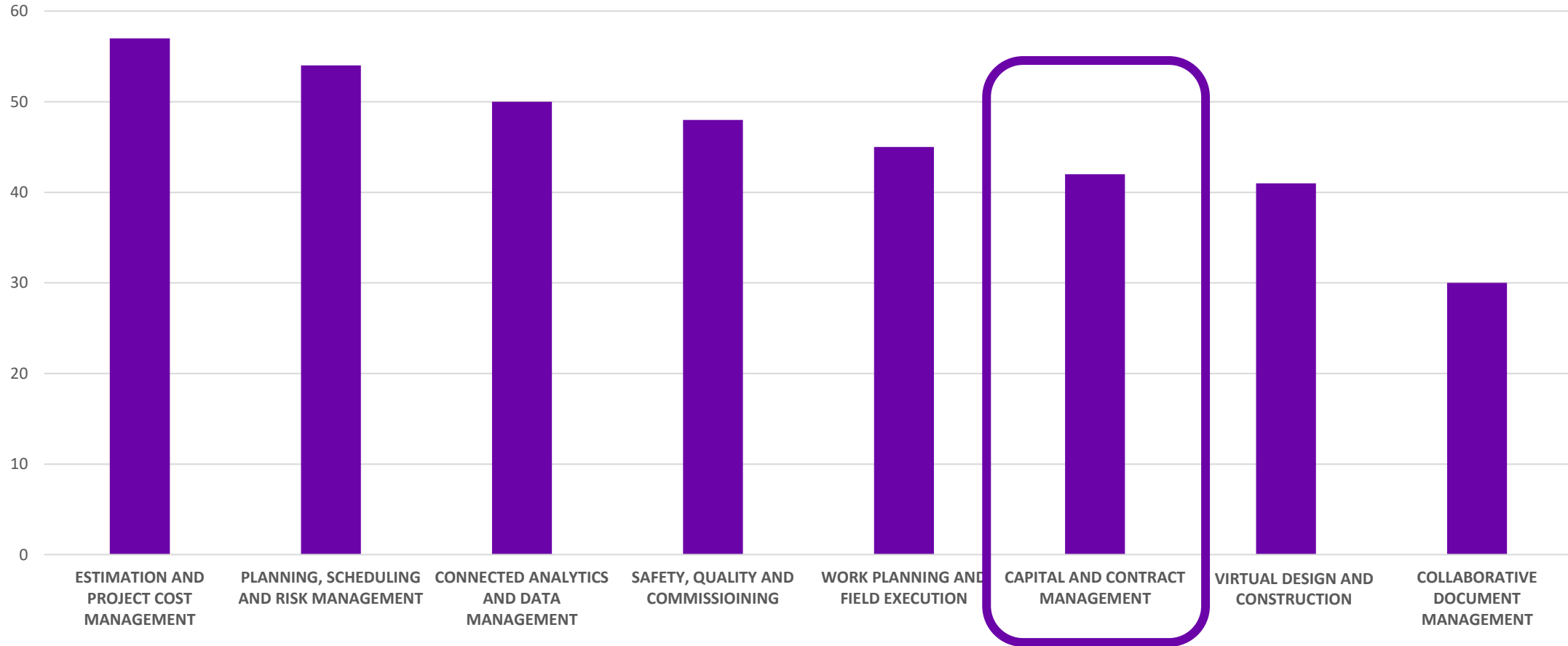
WE ARE HERE TO HELP!

# AVEVA: Delivering a complete digital thread, purpose-built for industry

Accelerate time-to-value with flexible, scalable, and trusted industrial hybrid SaaS solutions



WHICH OF THE FOLLOWING CATEGORIES OF SOFTWARE DO YOU SEE AS ESSENTIAL TO YOUR ORGANIZATION'S SUCCESS OVER THE NEXT FEW YEARS?



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# AVEVA™ CONTRACT RISK MANAGEMENT (CRM)!

# Why are risks undocumented?

Poor contract management costs companies between 9% – 15% of their bottom line.

## Contract data silos



Project manager cannot make sense of incomplete and incompatible contract data sets, no audit trail through the maze

## Ownership of contract data



Contract data maintained in unconnected, disparate systems often means that when disputes arise, the data is not available

AVEVA CONTRACT RISK MANAGEMENT

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# How costs can be avoided

# Causes for Investment Leakage : Change the text



**Ensuring contract & legislative compliance**



**Minimizing commercial impact of changes**



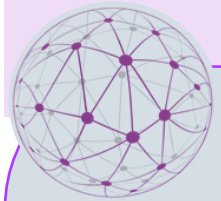
**Delays in approvals & reviews**



**Avoiding overpayment**



**Mitigating claims & disputes**



**Contractual relationships & obligations protected by best practice governance interweaved into platform**

**Single source of truth for decisions**



**Changes to schedule & cost surfaced early to the right people via platform intelligence**

**Transparency of controls & clear lines of accountability**



**Proactive obligation, milestone and supplier KPI management. RCA of bottlenecks**



**Streamline payment submission & verification through platform automation**



**Events, communications and decision-making captured in an immutable manner**

**Platform for collaboration with defensible decisions**

**AVEVA Contract Risk Management**

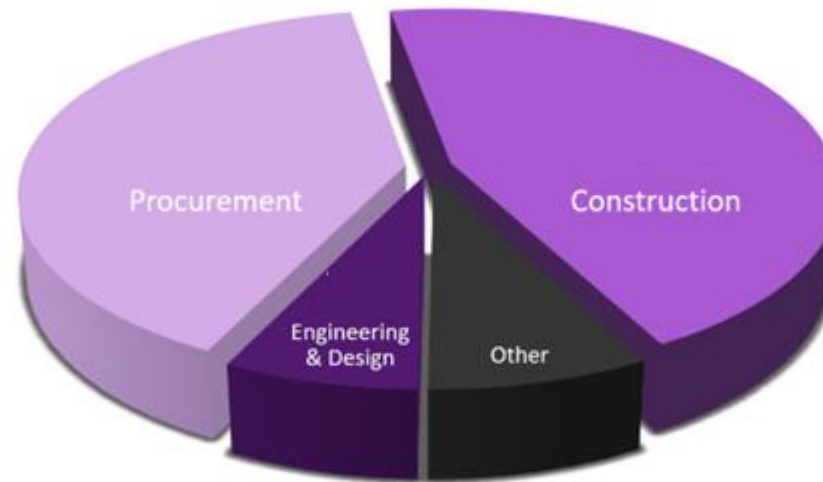
# Solution suite

What does AVEVA Contract Risk Management include?



# Question?

What percentage of CAPEX cost is associated with materials/procurement?



■ Construction + C&SU ■ Other ■ Engineering & Design ■ Procurement

Typical project cost breakdown



# AVEVA™ ENTERPRISE RESOURCE MANAGEMENT (ERM)!

# What does ERM provide to address EPC pain points?

- Early identification of change **5%**
  - Manage specs with revisions – manage and reduce the impact of change
- Right material, right place, right time, right quality, best price **10%**
  - Old adage, but it applies even more today – the integrated solution provides the ability to manage change and impact throughout the full end-to-end process
- Plan the work and work the plan – 5% to 15% **15%**
  - Integrating planning with material, labor and other resources gives the ability to reduce wasted craft labor and provide high-level visibility

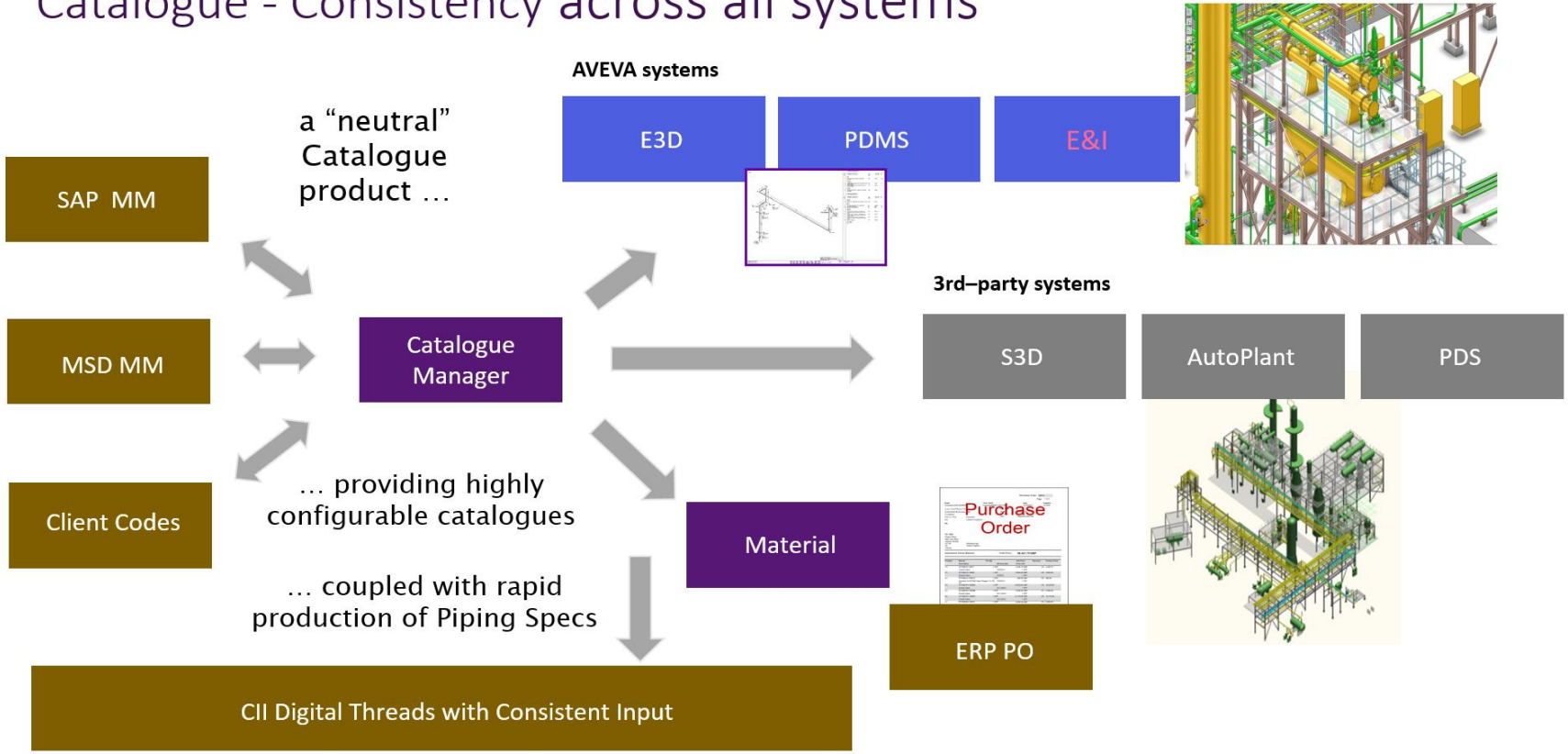
# ERM: END-TO-END MATERIALS MANAGEMENT



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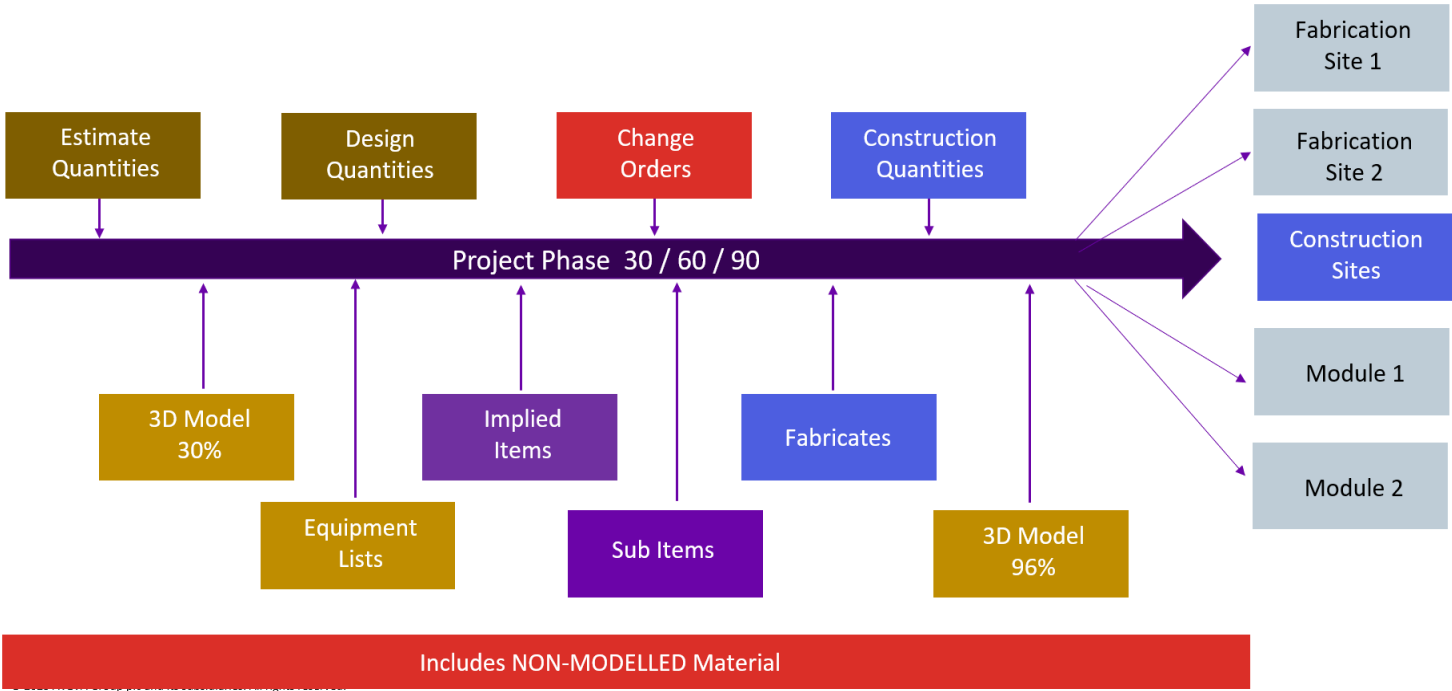
## Catalogue - Consistency across all systems



# ERM: END-TO-END MATERIALS MANAGEMENT



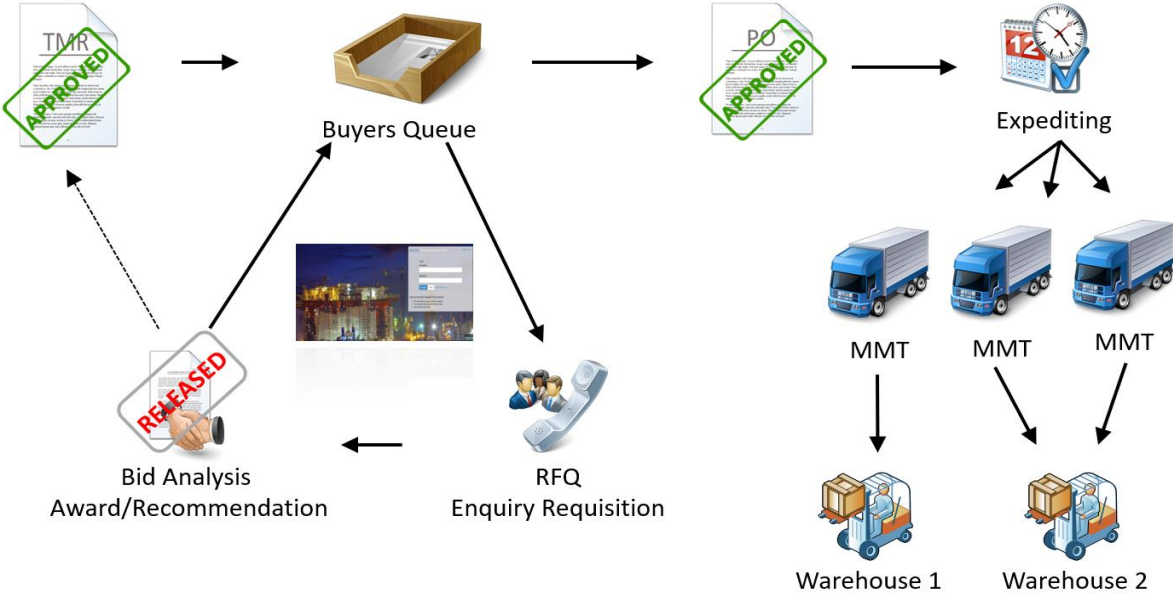
## Engineering Material Control for Bulk and Equipment



# ERM: END-TO-END MATERIALS MANAGEMENT



## Purchasing Material Delivery Process



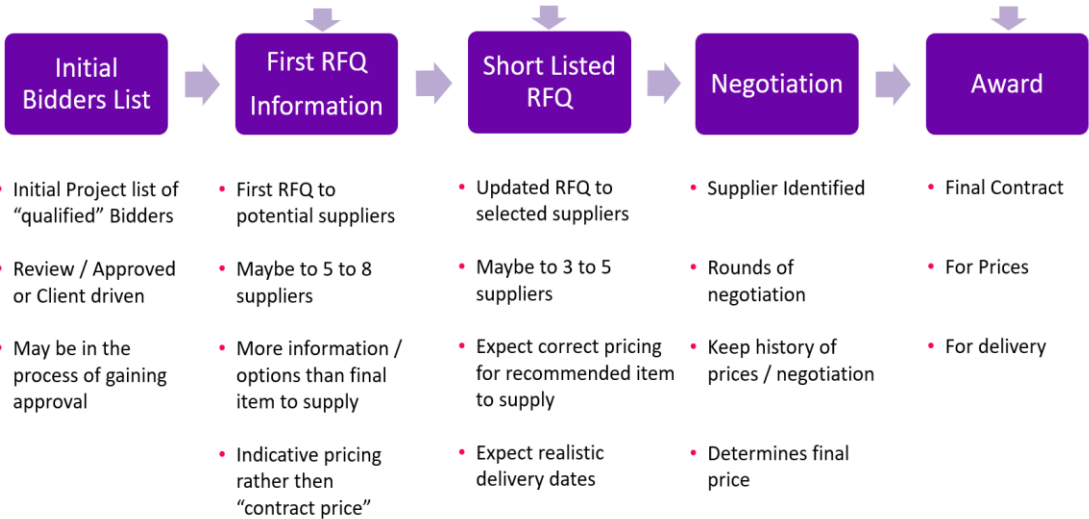


# ERM: END-TO-END MATERIALS MANAGEMENT



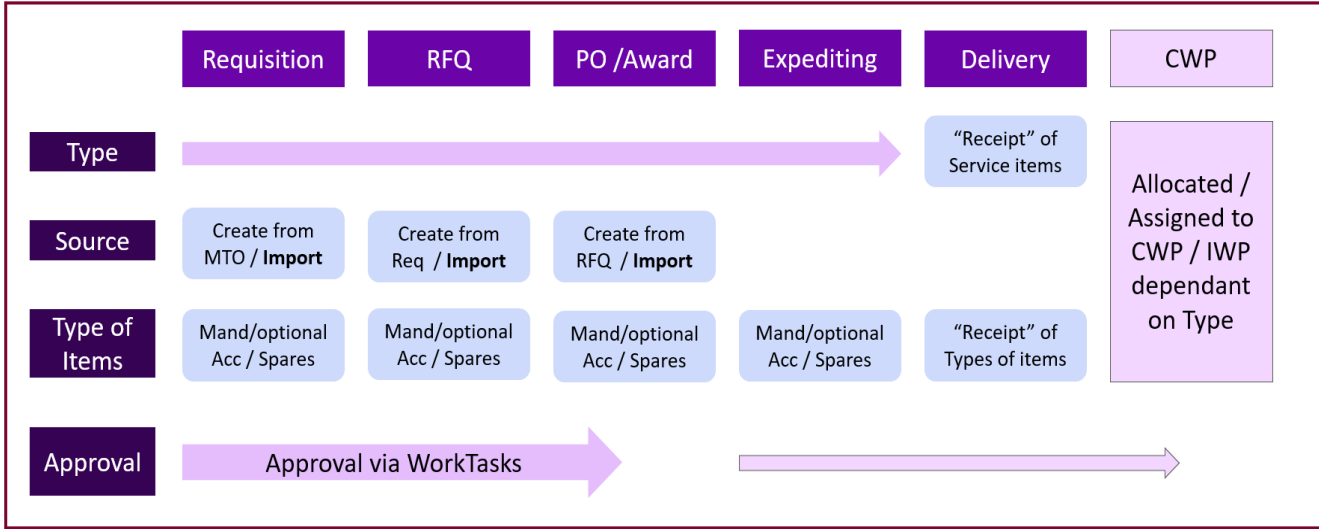
## ERM 19 Series Covers Full Enquiry Process & Sealed Bids

Starting at Initial Bidder List for the project through to final negotiations



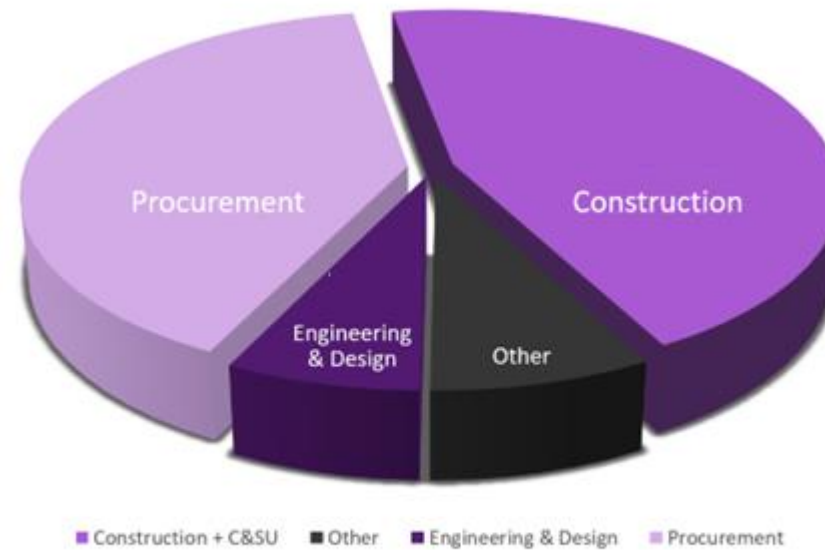
## Agreement Types with Downstream Processes and Approvals

Allow the correct processes for different types of procurement / contracts



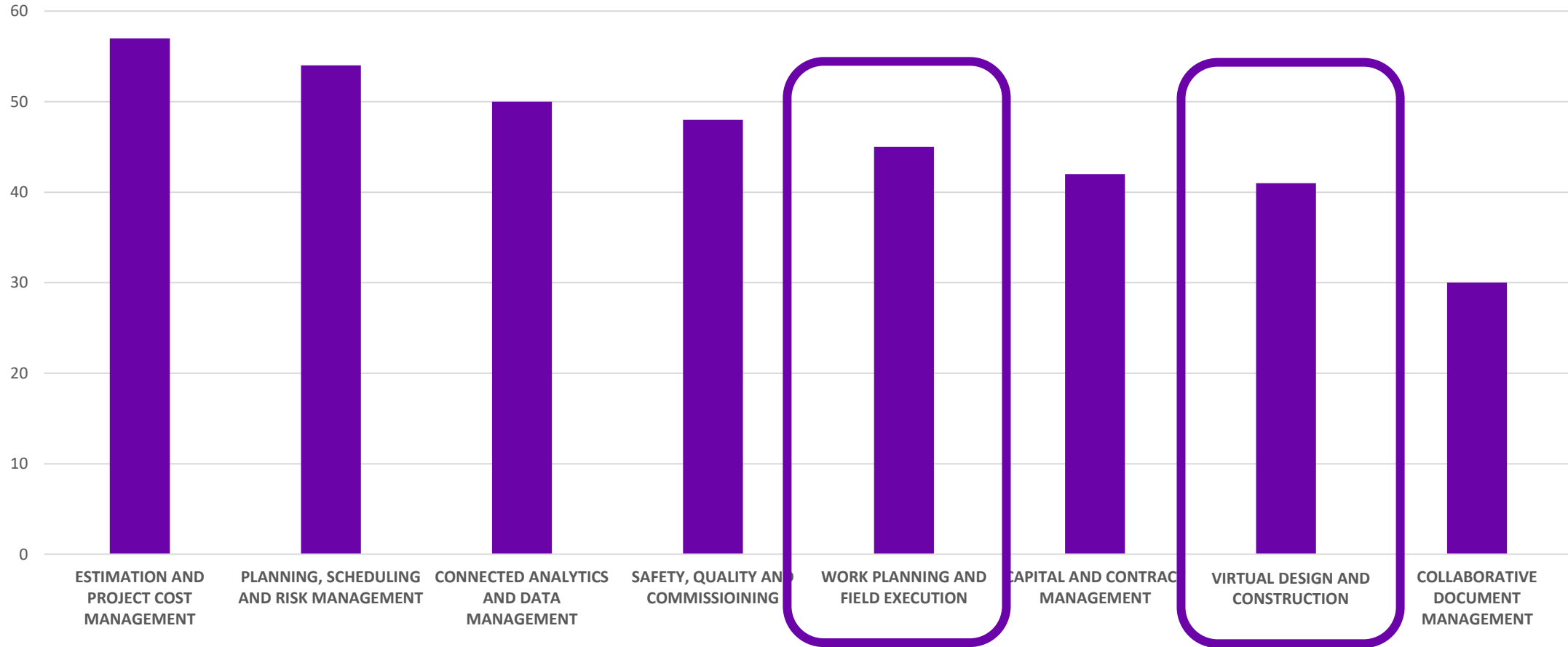
Question?

What percentage of CAPEX cost is associated with construction?



Typical project cost breakdown

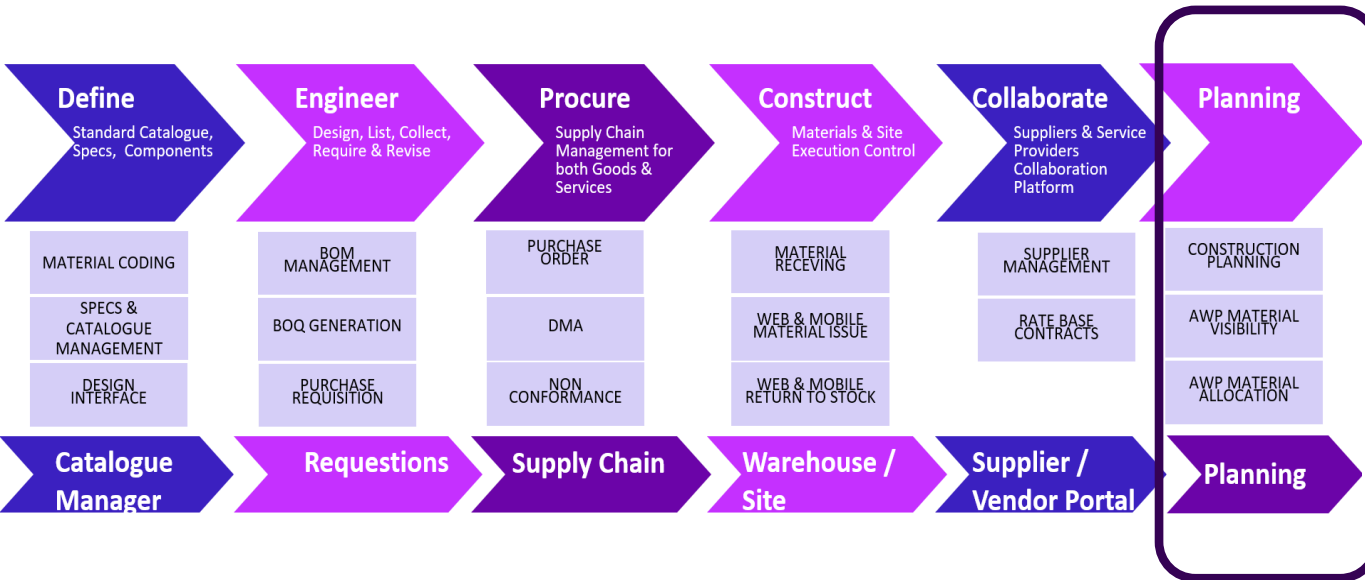
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# WORKPACKS!

# Complementing ERM planning with WorkPacks



### WorkPacks Product

#### FEATURE SUMMARY

**Planning**

From Early path Construction Planning to Detailed Short Range Production Planning, WorkPacks has it all!

**Integrations**

Seamless integrations built upon CI's best practice of AWP Digital Threads.

**Change Management**

Advanced change management with detailed history tracking and delta differentials on all project deliverables in real-time, at any time.

**Next Gen Package Templates**

Batch publish intelligent Work Package templates with auto-generated package content!

**Truly Scalable**

From small cap to the world's largest giga-projects, WorkPacks is easy to deploy and scales based on your needs.

**Enterprise Analytics**

Portfolio level and Project specific reports and KPIs to optimize productivity, predictability, and safety!

WorkPacks is the next-generation SaaS AWP solution for construction management, agile planning, and field-work execution.

# CHALLENGES

## Cost overruns and schedule delays

- 15% of total project activities are performed as “out of sequence,” increasing schedule by 33% and cost by 25%

## Lack of transparency and control

- 64% of project overruns are due to untracked scope changes
- 56% of project owners linked overruns to lack of effective change control

## Inefficient collaboration

- Teams waste up to 50% of their time finding and validating information

## Inefficient material management

- 28% of the cost of a greenfield capital project relates to material costs

## Environmental pressure

- ESG regulations pressure the construction industry to improve project sustainability outcomes, often by reducing carbon intensity and emissions



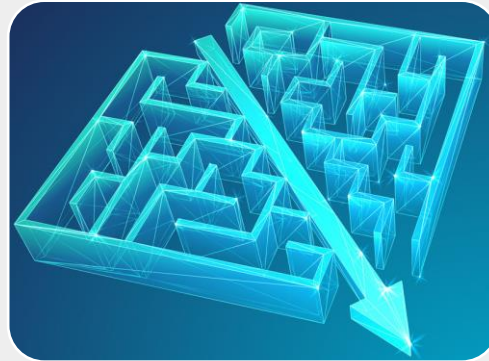
# AGILE PLATFORM FOR BUILDING WORK PACKAGES

## Key components



### WorkPacks **ADVANCE**

- AWP projects
- Constraint management
- Status visualization
- Dashboards



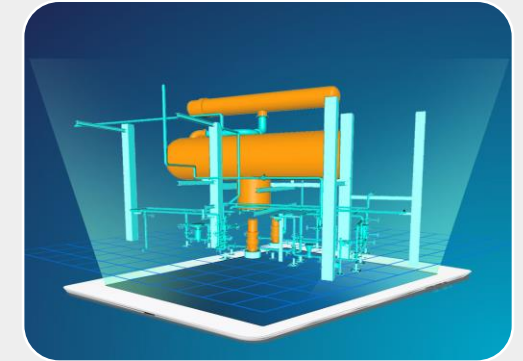
### WorkPacks **PLAN**

- Early development of the path of construction (POC) through work scope definitions, documents, and 2D visualizations



### WorkPacks **DELTA**

- Data integration platform
- Workflow automation
- AI



### WorkPacks **BUILDER**

- Automated work package planning, creation and management

# BENEFITS & VALUE

**Increased productivity by up to 25%**

Reduced time and costs to implement a digital advanced work packaging (AWP) methodology within your organization

A scalable, repeatable, digital AWP solution to be applied to projects of all sizes

**Reduced total installed cost by as much as 10%**

Improved field productivity, cost reduction, and schedule predictability in project execution.

Strengthened collaboration

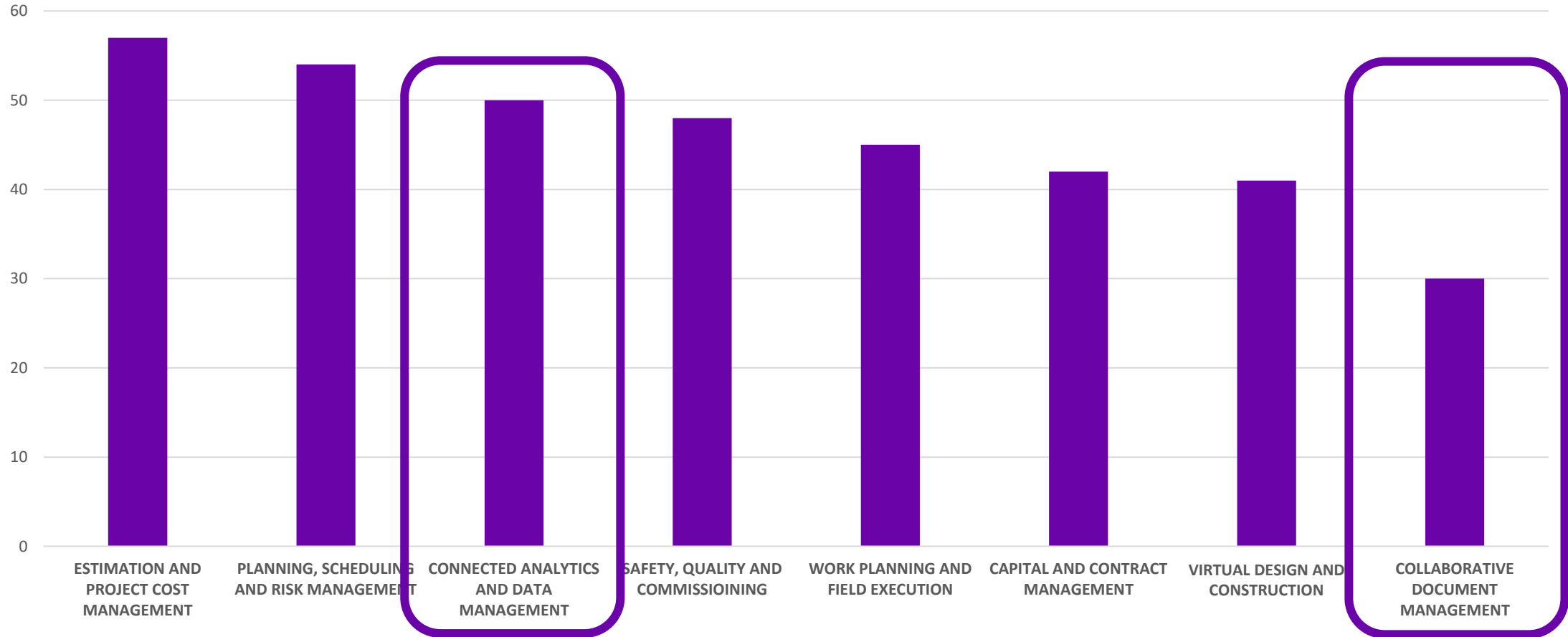
**Reduce safety incidents by up to 20%**

Improved alignment of Engineering and Procurement with Construction and Commissioning

Promote real-time accountability & safety by utilizing real-time data updates for planning, accountability, and adherence to AWP requirements while boosting safety performance



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# AVEVA™ ASSET INFORMATION MANAGEMENT (AIM) & ASSAI!

# Industry & market pressures



Time wasted finding information

**30-45%**

Studies show that more than 95% of businesses need to manage unstructured data.<sup>1</sup>



Lower asset data quality

**\$15M**

Organizations believe poor data quality to be responsible for an average of \$15 million per year in losses.<sup>2</sup>



Document-centric, manual approach to configure operational systems

**~12**

By 2023, nearly five times as many company executives expect their operating models to run end-to-end digitized processes compared to today.<sup>3</sup>



Lack of data visibility and trust

**6-12**

Companies spend 6 to 12 months cleaning raw and inaccurate data before feeding it into an AI model.<sup>4</sup>



Lack of integration between information infrastructure and the physical asset

**10-30%**

A potential 10% to 30% reduction in engineering hours and up to 20% reduction in operating costs from developing a connected foundation.<sup>5</sup>

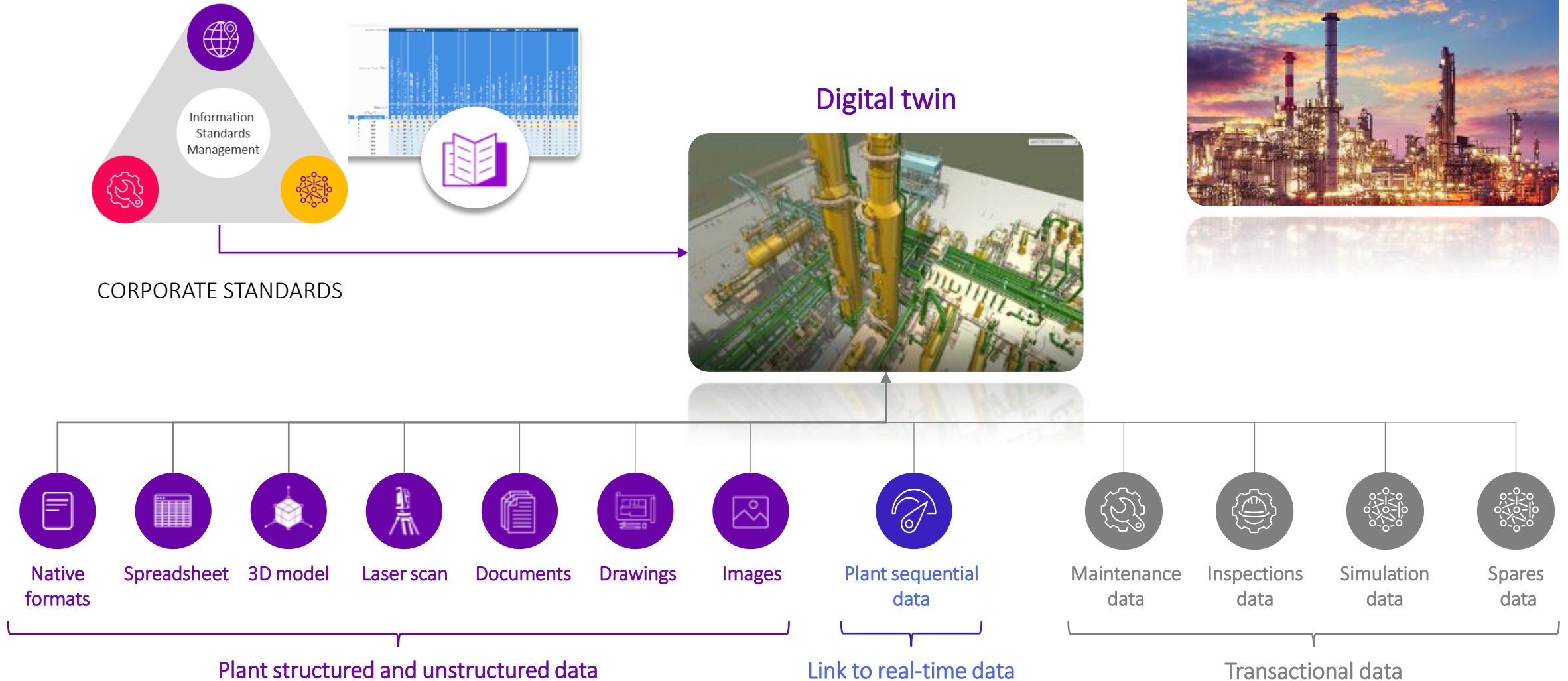
Sources: 1. [IBM](#) 2. [Forbes](#) 3. [Forbes](#) 4. [Deloitte](#) 5. [Deloitte](#)

# The cost of untrusted or unavailable information



Department	No. of people	Average manhours per week/person					Total A+B+C+D	Manh\Year (40 wk work yr)
		Search (A)	Verify (B)	Unavailable (C)	Correct\Compile (D)			
<b>Operations - OPEX</b>								
Offshore – Maintenance and facility integrity	238	5	3	2	3	13	123,760	
Offshore – Operations engineer	12	1	10	8		19	9,120	
Onshore – Maintenance and facility integrity	3	5	5	2	3	15	1,800	
DCS – Document support	30			10	10	20	24,000	
<b>Modification - CAPEX</b>							<b>158,680</b>	
Engineering team	~30	5	8	2		15	18,000	
Offshore – Support to engineering	~30	4	4	17		25	30,000	
DCS – Project document controller	~4	10	15			25	4,000	
Extract from “Digital Maturity Assessment” – Customer operating region							<b>52,000</b>	

# Bringing data from multiple sources and vendors in one place





# Google

Search Google or type a URL



Sheets



Add shortcut

# The Assai product in a nutshell

- **Document control & management for projects & operations**

- Web-based (cloud or on-premises)
- Out-of-the-box functionality for projects & operations
- Fit-for-purpose and user-friendly
- Highly flexible to support standards & procedures
- Supports all stakeholders, also external/contractors
- Efficient, automated distribution
- Strong revision control, action tracking & reporting

- **Asset management**

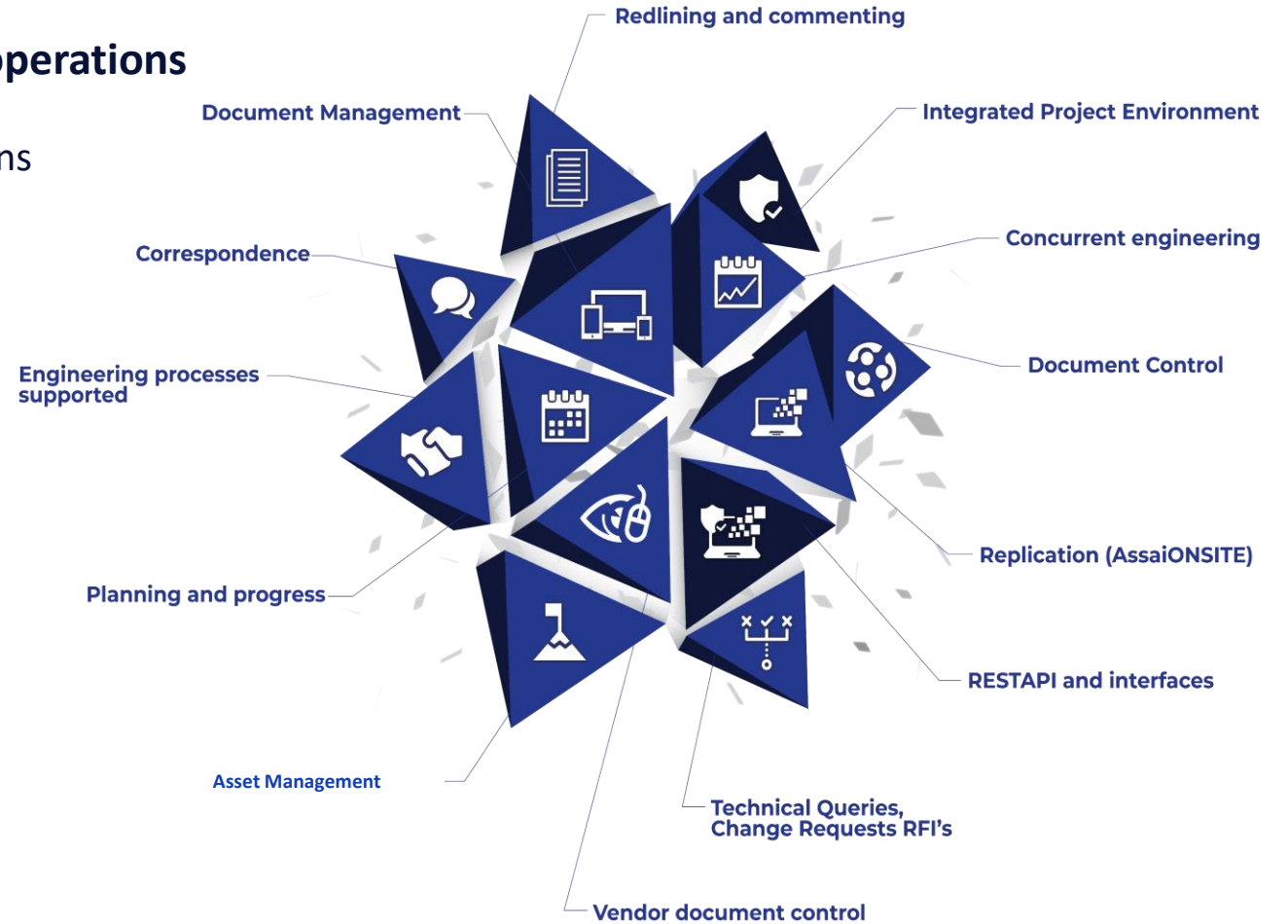
- Asset hierarchies
- Attributes
- Document-to-tag relations
- Tree views & 2D graphical drilldown
- (Pre-)Commissioning checklists

- **Quick and easy implementation**

- **Easy to manage; no dependency on Assai**

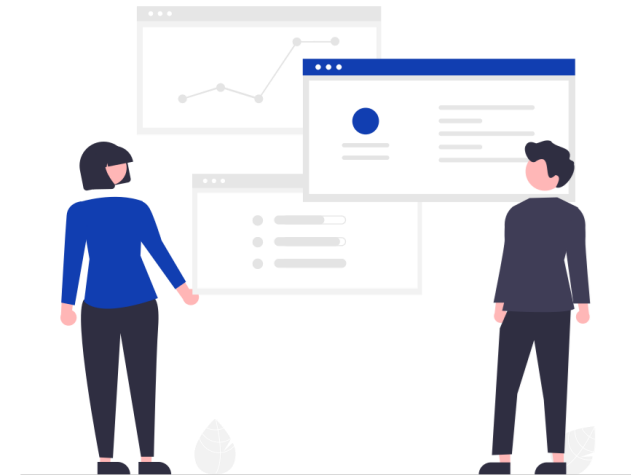
- **Integrations with other systems**

- **Highest security standards**



# How does document control help?

- **Supporting standards & procedures**
  - Intelligent numbering structures
  - Standard and custom reference data
  - Super users can easily manage all configuration & access
- **Controlled documentation**
  - Only DC can create & update documents by default
  - Select engineers/groups could be given update rights (*always or document-based*)
- **Latest information is accessible and used**
  - Easy to find required documentation
  - Strong revision control; see latest revision & file by default
  - Restrict access to native/source files
  - Easy to review collaboratively (*possibly with externals*)
- **Efficient distribution**
  - Instant e-mail notification with transmittal sheet & hyperlink
  - Distribution matrix (rule-based) or distr. list (document-based)
  - Extensive automation options, saving time and cost
- **Stay in control**
  - Action tracking, dashboards, reports & reminders
  - Planning module for next-level planning (WBS)
  - Full traceability & audit options
  - (*+ Later: digital handover, concurrent engineering..*)



# Business benefits

- **Boost productivity**
  - Fully integrated modules & optimized features
  - Extensive process automation, user efficiency
  - Integrated redlining and commenting
- **Deliver projects earlier**
  - Strong action tracking, reminders, expediting
  - Advanced planning & reporting
  - Digital handovers
- **Increase document quality**
  - Complete and correct documentation
  - Automatic and manual quality checks & templates
- **Puts you in control**
  - Assai = document control → project control
  - Reliable planning, dashboards & reports
- **Guaranteed security & availability**
  - Assai is SOC 2 type II certified
  - Assai Cloud runs on Microsoft Azure; almost 100% uptime guaranteed
  - Highly stable on-premises solution

***Plus: proven, powerful integration with AVEVA AIM***



# Summary

## CAPEX project

**CAPEX spending is up, and by one estimate, there will be 100+ trillion worth of projects by 2027**

- There are known inefficiencies in the CAPEX project execution.
- Most, if not all, of the CAPEX projects are over budget and schedule

## AVEVA solutions

**AVEVA offers end-to-end solutions for asset life cycle management**

- AVEVA is enhancing current project execution solutions to address the gaps and expanding its portfolio to offer a comprehensive digital project delivery platform



Want to know more?

**Please visit the demo center to learn more about  
CRM, ERM and AIM  
&  
Partner booths to learn more about  
ASSAI and WorkPacks!**



# Questions?

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



# Please remember to...

Navigate to this session in the mobile app to complete the survey.



# Thank you!



This presentation may include predictions, estimates, intentions, beliefs and other statements that are or may be construed as being forward-looking. While these forward-looking statements represent our current judgment on what the future holds, they are subject to risks and uncertainties that could result in actual outcomes differing materially from those projected in these statements. No statement contained herein constitutes a commitment by AVEVA to perform any particular action or to deliver any particular product or product features. Readers are cautioned not to place undue reliance on these forward-looking statements, which reflect our opinions only as of the date of this presentation.

The Company shall not be obliged to disclose any revision to these forward-looking statements to reflect events or circumstances occurring after the date on which they are made or to reflect the occurrence of future events.

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#### ABOUT AVEVA

AVEVA is a world leader in industrial software, providing engineering and operational solutions across multiple industries, including oil and gas, chemical, pharmaceutical, power and utilities, marine, renewables, and food and beverage. Our agnostic and open architecture helps organizations design, build, operate, maintain and optimize the complete lifecycle of complex industrial assets, from production plants and offshore platforms to manufactured consumer goods.

Over 20,000 enterprises in over 100 countries rely on AVEVA to help them deliver life's essentials: safe and reliable energy, food, medicines, infrastructure and more. By connecting people with trusted information and AI-enriched insights, AVEVA enables teams to engineer efficiently and optimize operations, driving growth and sustainability.

Named as one of the world's most innovative companies, AVEVA supports customers with open solutions and the expertise of more than 6,400 employees, 5,000 partners and 5,700 certified developers. The company is headquartered in Cambridge, UK.

Learn more at [www.aveva.com](https://www.aveva.com)