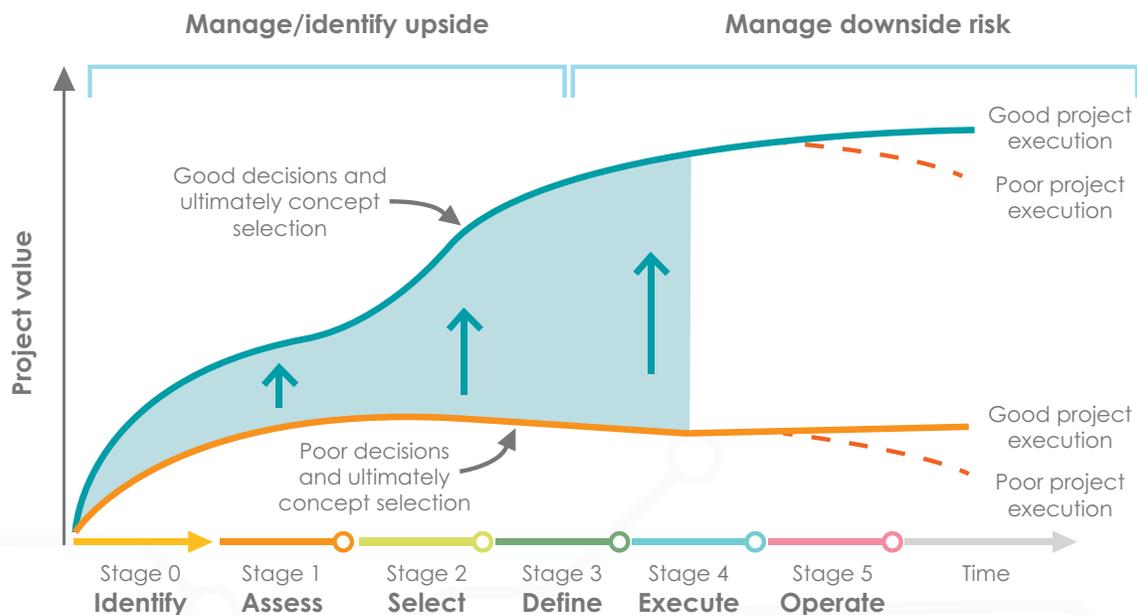FOUR SIMPLE IDEAS TO ENSURE

EFFECTIVE
WELL DELIVERY

IN THIS E-BOOK YOU WILL FIND FOUR EASY CHANGES YOU CAN MAKE TO HELP YOUR TEAMS EXECUTE EFFICIENTLY AND AVOID MISTAKES THAT CAN ERODE VALUE IN YOUR WELL DELIVERY PROGRAM.

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EFFECTIVE **WELL DELIVERY**

Well delivery is complex, involving the coordination of activities across multiple cross-disciplinary teams. When things go well, and execution is efficient, the value laid out in your company plans can be fully realized. But when things go wrong, cost overruns and delays can quickly cause you to fall short on the value promised to your shareholders.

Manage/identify upside   Manage downside risk

Project value

Good decisions and ultimately concept selection

Good project execution

Poor project execution

Poor decisions and ultimately concept selection

Good project execution

Poor project execution

| Stage 0 | Stage 1 | Stage 2 | Stage 3 | Stage 4 | Stage 5 | Time |
| **Identify** | **Assess** | **Select** | **Define** | **Execute** | **Operate** | |

A common cause of inefficiencies is the disconnect between the numerous stakeholders involved in well delivery. Their work is often siloed , and it requires significant effort to coordinate activities with other teams. Inefficient resource utilization, fines, penalties, and safety violations can result when there are communication breakdowns between team members across functions.

Read on to discover 4 actions you can take to remove siloes, bring project teams together, and execute more efficiently on your well delivery program.

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1

THE CHALLENGE

It's common for each discipline across well delivery to manage their own schedules and information. These schedules are often managed in Excel™ or Microsoft Project™, and shared with stakeholders as static PDFs or paper print-outs.

This creates several easy to avoid problems:

- **Manual Updates** - Valueable time is spent manually updating schedules based on changes by other disciplines in the well delivery process.

- **Constraint Violations** - Time consuming manual review processes are required to ensure that the overall schedule makes sense and isn't violating any constraints.

- **Hidden Errors** - Increased errors occur due to manual data entry, but the errors are hidden due to a lack of visibility.

- **Multiple Sources of Truth** - There is no single source of truth for the current schedule. Static copies, in email and on network shares, make it easy to accidentally reference previous iterations of the schedule.

1 THE SOLUTION

GIVE YOUR TEAMS SHARED VISIBILITY THROUGH A SINGLE, EASY TO ACCESS, OPERATIONAL SCHEDULE.

THIS ALLOWS YOU TO:

- Share a single schedule with your entire team to create alignment across the different disciplines while eliminating the need for manual reconciliation of disparate schedules.

- Create a single place for other stakeholders across the organization to view the up-to-date plan. This eliminates issues where decisions are being made based on an out-of-date schedule.

- See the whole picture so you can easily spot errors that lead to uncessary delays and cost over-runs.

- Deploy automated rules to ensure that the overall schedule is sensible, without requiring manual validation checks.

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2 THE CHALLENGE

Many steps are required before rigs arrive on site, such as permitting, surveying, and construction. Often these steps are tracked independently of the drilling & completion schedules, through tools like e-mail, paper checklists, and shared Excel™ workbooks.

This can cause three BIG problems:

- **Unnecessary Status Updates** - Because the well delivery team doesn't have easy access to the readiness of various project steps, a large portion of the operations meeting is dedicated to status updates, rather than focusing on the problems and changes from the last meeting. This wastes time and risks missing important issues.

- **Unknown Change Impacts** - When making changes to the schedule, it is difficult to quickly identify if the changes are likely to create an issue for some downstream activity.

- **Information is Unavaliable** - When the unexpected happens, and the schedule needs to be changed in a hurry, the information required to make the best decision, such as "which is the next well we can or should drill?", isn't always easy to find.

Some operators attempt to solve this by building out very complex project schedules that include detailed delivery steps in a rigorous process. While this may work for some, it's not always scalable and it can create challenges for agile teams - especially ones that don't follow a strict work breakdown structure.

2

THE SOLUTION

INTEGRATE YOUR SCHEDULING AND READINESS WORKFLOWS.

THIS ALLOWS YOU TO:

- Increase collaboration with cross-disciplinary readiness workflows executed through fit-for-purpose software. This helps ensure that the right work is done, and the right people are notified, each step of the way.

- Ensure that workflow due dates are updated as the schedule changes and that changes to the schedule are made with knowledge of the associated activity readiness milestones, either for routine changes, or when reacting to a problem.

- Avoid moving a rig to a well that isn't ready yet, or can't possibly be ready with the new scheduled start date.

- Identify potential issues where a pre-work step is at risk of jeopardizing a project, requiring acceleration or re-scheduling.

- Create healthy communication between team members across disciplines to promote accountability and to ensure that the appropriate reasons for missed schedule milestones are identified.

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3

THE CHALLENGE

Many organizations do not have tight integration between their long-term and short-term plans.

This can result in the following situations or problem areas:

- **Are The Right Projects Being Worked On? -** If the organization has invested significant effort into building a long-range plan based on their business goals, it's important to make sure that the plan is being followed.

- **Wasted Effort -** Wasted time and effort is spent maintaining projects and project parameters in seperate short-term and long-term planning tools.

- **Next To Impossible Lookbacks -** It's difficult to improve planning if proper lookbacks can't be performed due to an inability to cross reference what's found in planning and execution systems.

These issues create a feedback loop of distrust between planning and execution teams. Execution teams are hesitant to use plans from the planning group that may not be grounded in reality. Planning can't easily update their models, based on historical performance, because of a lack of visibility into operational realities.

3 THE SOLUTION

LEVERAGE INTEGRATED TECHNOLOGY TO CONNECT DATA AND WORKFLOWS ACROSS PLANNING AND EXECUTION.

THIS ALLOWS YOU TO:

- Promote increased collaboration across your execution and planning teams.

- Save time when creating schedules and budgets by leveraging existing work and plans developed by the planning team.

- Easily update your planning models based on current operational realities.

- Perform simple look-backs, as projects are completed, with easy to reference data across planning and execution.

- Revalidate assumptions, mid-year, using evergreen data that includes project actuals.

With tight integration between planning and execution tools, it's now possible to routinely and quickly re-run the planning model with consideration of current operational realities, ensuring that the economic assumptions still hold and that the overall plan still makes sense.

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4

THE CHALLENGE

Building annual budgets is ubiquitous across oil and gas operators, but the budget is often something that is prepared at the start of the year and then set aside and forgotten. The budget is usally captured in tools like Excel™, that are not integrated with AFE systems.

This leads to the following potential issues:

- **Disconnected AFEs -** AFE owners create AFEs without a direct tie to the budget, resulting in discrepancies between the AFE estimate and the corporate budget. Without visibility into these differences, it's easy to miss essential approvals for out of budget spending.

- **Lack of visibility -** Approvers don't have clear line of sight to budgeted amounts. If they choose to verify the allocated budget, they must perform manual lookups in whatever system manages the capital budget.

- **Unexpected risk -** With no mid-year visibility into forecasted spending, there is no easy way for decision makers to tell if projects are still on-track. This exposes the organization to the risk of having to halt development programs unexectedly because project overruns burned through available capital.

4

THE SOLUTION

RAISE AFES IN THE CONTEXT OF YOUR BUDGET, WITH INTEGRATED AFE AND BUDGETING WORKFLOWS.

THIS ALLOWS YOU TO:

- Ensure that each AFE is correctly tied to an approved entry in the capital budget and that there is no accidental spending on unbudgeted projects.

- Track AFE actuals back to budgeted projects and routinely use those actuals to generate new blended forecasts.

- Provide AFE owners, project owners, budget owners, finance and accounting teams clear visibility into the budget, the current forecasted spending, and the actual AFE spending.

IN **CONCLUSION**

In todays volatile markets, maximizing profitability throughout well delivery requires integration across data, teams and workflows. Adopting technologies and processes that eliminate manual data aggregation, validation, and reporting, frees up resources and allows your staff to focus on finding creative solutions for adding value to your organization.

Fortunately, tools exist today that support these new ways of working. By moving away from home-grown Excel™ models and disconnected tools, organizations can help their teams to work together more efficiently and ultimately avoid the erosion of value caused by inefficiency, delays, and easily avoidable mistakes.

AUCERNA **EXECUTE** (FORMERLY AFE NAV™)

Aucerna Execute is the industry's leading, integrated capital management and operational planning solution. The software combines all aspects of capital management and operational planning into a single system, with integrated modules for budgeting & forecasting, capital tracking, AFE management, operational scheduling and readiness workflows. Aucerna Execute helps operators align teams, eliminate data errors, and share critical information with key stakeholders, exactly when they need it.

Learn more about Aucerna Execute.
Visit www.aucerna.com

ABOUT **THE AUTHOR:**

JEFF CLEMENT
PRODUCT MANAGER

Aucerna
Execute
Powered by **A AFE** Nav

Jeff Clement has over 15 years of experience building software for the Oil & Gas industry.

He's spent much of that time working on Aucerna Execute (formerly AFE Nav™), first as a developer and later guiding the development as the Product Manager.

Jeff loves working with clients to understand their challenges and then designing solutions to help resolve them. His ideas have brought forth time-saving solutions in the well delivery space that aim to help teams work together more effectively.

In his free time, Jeff's dedicated to his wife and four kids and loves hitting the outdoors whenever possible. He enjoys hiking, biking, cross-country skiing, and mountain unicycling.

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