

# PROJECT MANAGEMENT CASE STUDY

Engineering as a Factory

## BP Saves \$11 Million on Engineering Projects, Increases Throughput by 24%

### CHALLENGE

Master 520 projects involving 400 people — now.

As a global oil and gas giant present in more than 55 countries, BP is no stranger to managing complex projects under difficult conditions. But in the Gulf of Mexico (GoM), one of the key project engineering teams faced an unprecedented backlog. Urgent health, safety, security, environmental (HSSE) projects ballooned to more than 520. Four hundred engineers were responsible for updating rig production systems, some as many as twenty years old, to newer and much more stringent standards. New devices—such as valves, gas compressors and gas/oil separators—had to be retrofitted. Work on off-shore rigs added an exponential level of complication: persons-on-board (POB) rules restricting the number of engineers and technicians allowed on the rigs; any welding, sparks or open flame meant interrupting production or working within enclosed work spaces that delayed progress and increased costs; and all necessary tools and materials had to be coordinated into on-shore “buffers” before off-shore work could begin. The project engineering teams were completing five projects a month—but new projects were added at a rate of 25 each month.

### SOLUTION

Create a portfolio view with simplified and integrated processes.

Reorganize their operating superstructure in three key areas:

**INTEGRATE CULTURE AND PROCEDURES** Hub engineering teams were aligned with common objectives to encourage collaboration across multiple and separate resource departments. Together, they explored “what if” opportunities for improved processes and defined more effective on-shore buffers.

**COORDINATE COMMUNICATIONS AND COLLABORATION** They designed a Visual Portfolio Tracking Board (on the wall and online) that made it easier for engineers to assemble, monitor and manage work packages as they made progress over time.

**CONTROL TASK UPDATES** Team members clarified their roles and responsibilities, identified and then reduced project blockages, and prioritized tasks for better project throughput performance

“The opportunity for us is in the tens of millions of dollars a year in additional throughput and efficiency.”

— Group Manager

## CLIENT OVERVIEW

### REGION

Houston, TX — Gulf of Mexico (GoM)

### INDUSTRY

Oil & gas production

### CUSTOMER PROFILE

A leading global supplier of oil & gas, present in more than 55 countries on six continents

### BUSINESS SITUATION

The company's Gulf of Mexico division faced tremendous demand in its risk mitigation engineering efforts, together with significant specification increase. A key project engineering team was in a resource crunch. The output of the engineering team had to increase significantly.

### SOLUTION

The engineering team increased project throughput with the application of advanced project management techniques driven by a simple Visual Portfolio Board, work rules and metrics.

## RESULTS

Increased buffer of ready-to-construct projects 300% (the team's main deliverable)

Annualized savings of over \$11 million USD

12% increase in productivity

Increased visibility into the process for all stakeholders

Reduced total time to deliver projects

Reduced changing priorities

Delivered consistent reporting throughout the organization

Improved quality-of-life for resources and managers

Continuous Improvement (CI) initiatives are already underway, dovetailed into this new methodology

### BENEFITS

Project throughput up 24% in six months

Bottlenecks to workflow identified

Project teams working collaboratively, on the same priority

Reduced project cycle time

Number and duration of project meetings reduced dramatically

## RESULTS

### Ready-to-construct projects increased by 300%

In just six months, the team increased its project throughput by 24%, tripling the number of ready-to-construct oil platform projects. Project lead times dropped from 18 months to 13. As project cycle times declined, efficiency increased, leading to more than \$11 million in annualized savings. Time spent in meetings plummeted from as much as several hours a day to as little as ten minutes a week, boosting morale. Overall, the resulting process improvements and systemic coordination led to a 12% increase in efficiency (output/FTE) and improved quality of life for engineers and their managers.

“When we come to meetings at the Board, we typically spend about 10 minutes—total—if not less. Morale is way up.”

— Project Manager

“When teams from different disciplines come in and see the same thing on the Visual Portfolio Board, you understand immediately what needs to be done. This is a big, big advantage.”

— Vice President and Project Manager

## ABOUT VIEWPOINT BASIC COLLABORATION

The implementation at BP reflects one level of the Project Execution Maturity Model, Basic Collaboration. Each level of maturity is a reflection of an organization's capability to manage activity and time.

BASIC COLLABORATION applies to a local work group and completion of its tasks currently in progress. The main emphasis of Basic Collaboration is on task velocity and synchronizing the team.

IMPROVED COORDINATION extends capabilities to remote work groups and extends beyond current tasks to those in the near future. The main emphasis of Improved Coordination is on delivery date performance and if necessary, integrates remote teams into the collaborative execution process.

INTEGRATED PLANNING AND EXECUTION creates a closed-loop process between planning and execution that drives ongoing project performance improvement. The main emphasis is on managing the future—planning for and managing risks and resources, and developing process capability for ongoing improvements.

The Project Execution Maturity Model gives man-

agers confidence in the change process, by:

- Matching project execution behaviors and processes against best practice
- Testing behaviors and processes for consistency across functions
- Checking for organizational alignment

It guides the organization as it progresses from local, ad hoc execution methods to integrated, repeatable practices that systematically deliver projects on time, at lower costs.

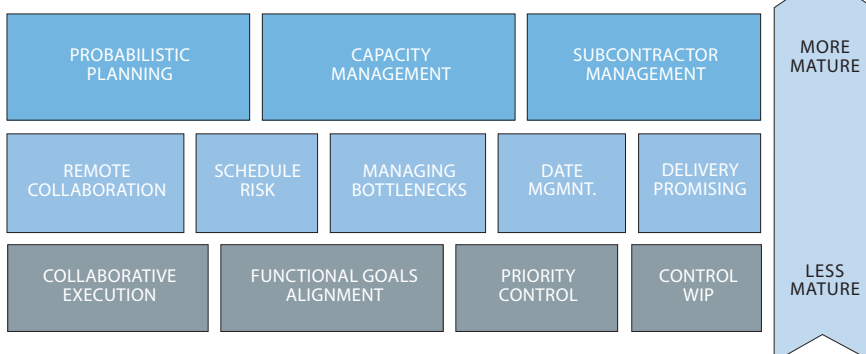
## ELEGANT SOLUTIONS TO COMPLEX PROBLEMS

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## PROJECT EXECUTION MATURITY MODEL



**Projects In Less Time**  
Taming project complexity