

LEAN MANUFACTURING IN THE OILFIELD SERVICES INDUSTRY

LET006

COURSE DESCRIPTION

From 1990 to today, the concepts of lean manufacturing have continued to develop. Specifically, lean manufacturing principles are those that seek to minimize waste during the manufacturing process. More broadly, lean manufacturing now encompasses any technique or process that enables a process to run more efficiently. Lean manufacturing is not a specific set of steps to take or rules to follow. Instead, lean manufacturing provides a framework — your company can develop and customize your own production systems in order to minimize the seven sources of waste.

The Oil and Gas Industry is ever changing. Now recognizing the competitive advantage that Lean thinking can bring to the entire industry as a whole, sub-sections within Oil and Gas are utilizing specific areas of Lean, each benefiting from the theories and tools that Lean provides.

This course covers the lean production tools and techniques in the oil and gas industry with a focus on the oilfield services industry. Benefits of application of LEAN Manufacturing in Oil Sector include organized workplace, highest levels of safety, improved work standards, reduced spares costs, improved overall equipment effectiveness (OEE), mean time between failures (MTBF) and mean time to repair (MTTR), in addition to reduced procurement time. The course reviews the importance of leadership and communication; developing and empowering employees; teamwork; safety; standardization; PDCA; Kaizen; idea systems; training; and more!

COURSE GOAL

To enhance the participants' knowledge, skills, and attitudes necessary to develop and maintain a lean culture and use lean production tools and techniques in the oil and gas industry with a focus on the oilfield services industry.

COURSE OBJECTIVES

By the end of this course, participant will be able to:

- Define the concept of lean.
- Describe culture in the workplace.
- List the pros and cons of developing a lean culture.
- Distinguish between the cultural enablers of leadership and communication.
- Distinguish between the cultural enablers of human development, teamwork, and empowerment.
- Describe the cultural enabler of safety.
- Describe the lean concept of adding value.

- Describe benchmarking in the context of lean.
- Describe the lean concept of standardization.
- Describe how to implement kaizen with plan-do-check-act.
- Describe the lean tool of idea systems.
- Describe the required training for transitioning to lean.
- Describe coaching and mentoring in the context of lean.
- Describe how to reinforce lean practices.
- Understand the basics of lean tools.
- Understand the Kaizen process.
- Understand Takt time.
- Go to the next phase in a lean transformation.
- Describe how lean requires a focus on results.
- Describe the importance of recognizing waste in order to eliminate it.
- Describe how lean enterprises organize around flow.
- Understand the role of lean production tools in oilfield services industry.

WHO SHOULD ATTEND

- All Oilfield Employees.

COURSE DURATION

5 Working Days

COURSE OUTLINES

1. Developing a Lean Culture

- History of Lean
- What Is Lean?
- Culture in the Workplace
- The Pros and Cons of Developing a Lean Culture
- Cultural Enablers: Leadership and Communication
- Cultural Enablers: Human Development, Teamwork, and Empowerment
- Cultural Enablers: Safety
- Adding Value
- Benchmarking
- Standardizing the Production Process
- Kaizen: Developing a Culture of Continuous Improvement

- Implementing Kaizen with PDCA
- Idea Systems
- Training Employees in Lean Practices
 - On-the-Job Training
 - On-the-Job Training: Key Roles
 - Cross Training
- Coaching and Mentoring
- Reinforcing Lean Practices

2. Lean Toolbox

- Kanban
- 5S
- Poke-Yoke
- Total Productive Maintenance (TPM)
- Kaizen
- Cellular Manufacturing
- The Single Minute Exchange of Die (SMED)
- Value Stream Mapping
- Leveled Production
- Standard Work
- Jidoka
- Seven Quality Tools

3. The Oil and Gas Industry: An Overview

- Oilfield Services Industry
- Description of the oilfield services industry
 - Exploration and Evaluation
 - Drilling
 - Logging and Recording
 - Development and Completion
 - Extraction
- Supply and demand factors in the oilfield services industry
- Role of lean production tools in oilfield services industry
 - Kanban
 - 5S

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