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# Advanced Shutdown, Turnaround & Outage (STO) Management for petrochemical plant

24 – 28 May 2027
Paris (France)



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## Introduction

Shutdowns, Turnarounds, and Outages STO are among the most critical and resource-intensive events in asset-intensive industries such as oil & gas, petrochemicals, power, and heavy manufacturing. Poorly managed STOs can result in massive production losses, budget overruns, safety incidents, and long-term operational inefficiencies.
This Advanced Shutdown, Turnaround & Outage STO Management course offers senior leaders and technical managers a comprehensive framework to master STO excellence. The program emphasizes strategic STO governance, advanced risk modeling, digital transformation, and cross-functional leadership to ensure seamless readiness, safe execution, and optimized restart.
Participants will gain essential tools for integrating risk-based planning, predictive analytics, asset management best practices, and continuous improvement to drive organizational resilience and operational excellence.

## Course Objectives

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

- Strategically govern the entire STO lifecycle using risk-based frameworks and high-level performance indicators.
- Evaluate and optimize readiness, execution, and post-outage recovery through integrated management systems.
- Lead multi-disciplinary STO teams with strong stakeholder alignment and agile organizational approaches.
- Apply advanced risk analysis techniques, cost modeling, and value optimization frameworks to major STO projects.
- Leverage digital tools and technologies such as AI, machine learning, predictive analytics, and digital twins to transform STO planning and execution.
- Design and implement structured post-mortem reviews to support organizational learning and continuous improvement.



# Course Outlines

## Day 1: Strategic STO Governance & Leadership

- STO as a business-critical process: strategic and financial perspectives.
- Governance models, policy creation, and accountability structures.
- Maturity models and diagnostic tools for assessing STO readiness.
- Executive decision-making: balancing cost, time, and operational risk.

## Day 2: Risk, Scope & Readiness Optimization

- Advanced risk modeling: Monte Carlo analysis, FMEA/FMECA, and Risk-Based Inspection RBI integration.
- Scope definition and control strategies: buffers, change management, and stage gate reviews.
- Organizational readiness: capability building, cultural alignment, and stakeholder engagement.
- Auditing tools for readiness assessments and go/no-go decisions.

## Day 3: Integrated Scheduling, Contracting & Logistics

- Integrated scheduling approaches with dynamic resource leveling.
- Advanced logistics management: supply chain resilience, warehousing, and lead time optimization.
- Strategic contractor management: key performance indicators KPIs, service level agreements SLAs, and dispute resolution strategies.
- Crisis management scenarios and contingency planning for STO logistics.

## Day 4: High-Performance Execution & Control

- Real-time execution dashboards: visual management, delay impact analysis, and proactive adjustments.
- Leading field operations and digital control centers: daily governance and rapid coordination.
- Safety leadership and compliance assurance during high-intensity phases.
- Adaptive execution under uncertainty: rapid decision frameworks and escalation protocols.

## Day 5: Post-Mortem Review & STO Digital Transformation

- Comprehensive post-shutdown reviews: return on investment ROI, operational efficiency OEE improvements, and KPI analysis.
- Knowledge management systems for capturing institutional learning and lessons learned.
- Digital transformation: leveraging AI/ML, predictive analytics, and digital twins to elevate STO capabilities.
- Case studies showcasing global STO excellence e.g., Shell, Aramco, BASF.



## Why Attend this Course: Wins & Losses!

- Gain a complete mastery of advanced STO governance frameworks.
- Optimize risk, scope, and readiness to minimize downtime and maximize asset reliability.
- Develop strong leadership skills to align and lead multi-functional STO teams.
- Improve decision-making through data-driven insights and predictive analytics.
- Embrace digital transformation to enhance STO execution and long-term asset performance.
- Reduce operational costs and improve safety metrics.
- Strengthen organizational learning and build a resilient maintenance culture.
- Benchmark against global best practices and proven case studies.

## Conclusion

The Advanced Shutdown, Turnaround & Outage STO Management course empowers leaders and technical professionals to transform STO processes into strategic drivers of operational excellence and asset integrity. By combining strategic governance, advanced risk management, and digital transformation, this program provides the frameworks and tools to achieve superior performance, cost efficiency, and long-term reliability.

**Whether you are in oil & gas, petrochemicals, utilities, or heavy industries, mastering STO management is essential for staying competitive and resilient. Join this course to lead your organization into a new era of proactive, intelligent, and safe asset management.**

