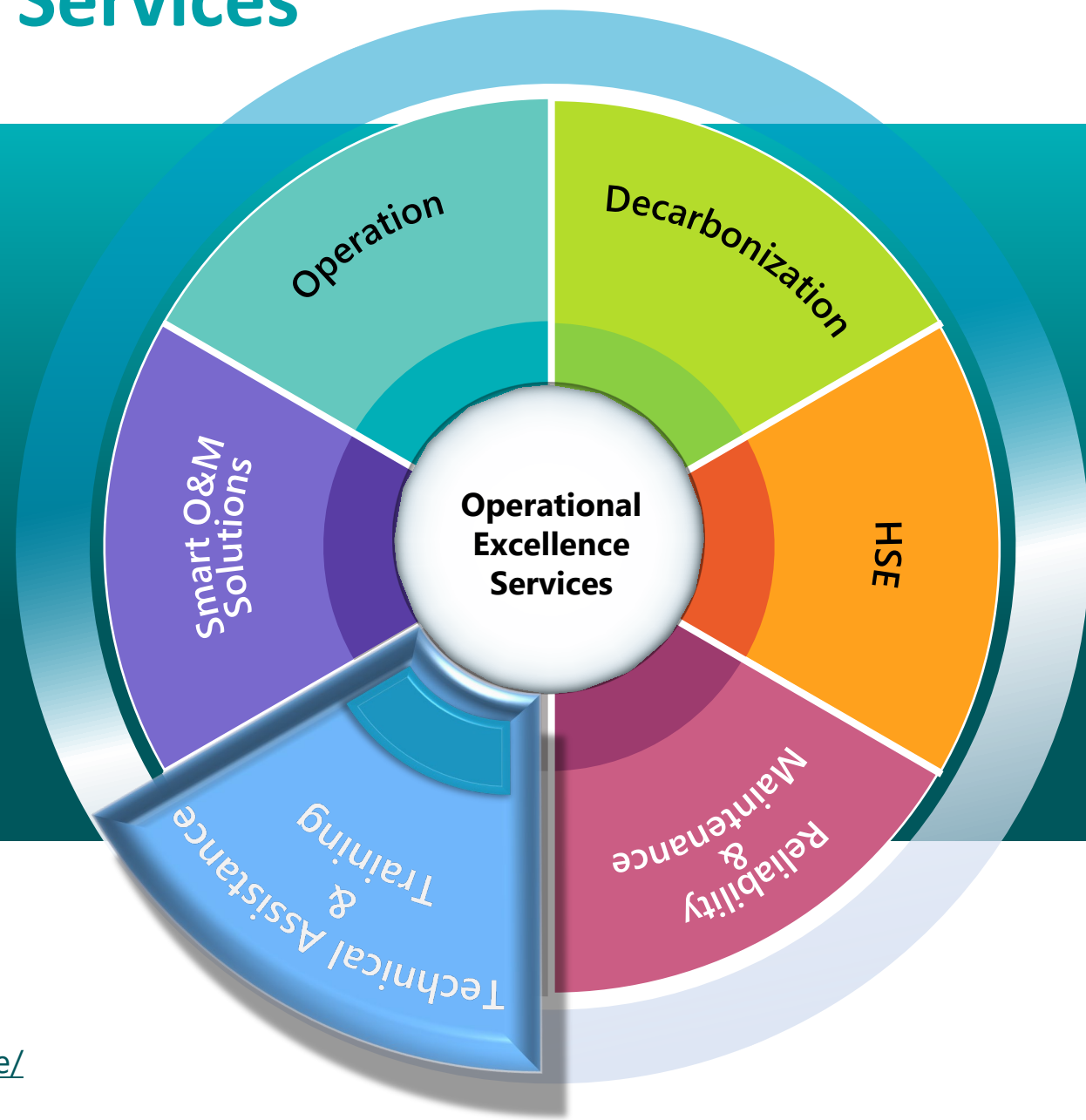




# Operational Excellence Services

## Technical Assistance & Training

## Training and Competency Management Services



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### Access to Our Homepage

 <https://www.jgc.com/en/business/epc/operation-maintenance/service/>

# Training and Competency Management Services

## Do you have any of these issues?

- ☹️ **Catching up to the latest technical trends**
- ☹️ **Refreshing knowledge on essential technical matters**
- ☹️ **Specific training linked to technical issues**  
(e.g., troubleshooting, performance improvement)
- ☹️ **Struggling to fill gap between actual and required skill set**

## Training Services

- Organize a tailor-made training program  
(e.g., Asset Management, Process Safety Management, TA Management, Plant Life Extension, etc.)
- Deliver training courses and seminars (at site or on-line)
- Implement competency management program
- Dispatch experts to site;
  - for hands-on training
  - for troubleshooting and performance evaluation with follow-up technical sessions



# Training and Competency Management Services

## Key Categories / Themes for Technical Training

Engineering & Project	Operation & Maintenance
P&ID	Process Safety Management
Hydraulic Design	Reliability, Availability, Maintainability (RAM)
Process Engineering	Reliability-Centered Maintenance
Dynamic Simulation Technology	Risk-Based Inspection
Plant Safety Design and Risk Management	Plant Life Extension Program
HAZOP	Fitness for Service
Material Selection	Simulation Technology for Plant Troubleshooting (CFD)
Piping Engineering	Turnaround Management
Pressure Vessel, Exchangers and Tanks	Computerized Maintenance Management System
Energy Efficiency Improvement	Computerized Inspection Management System
Pump and Compressor	
Instrument Engineering	
Safety Instrumented Systems	
Electrical Engineering	
Civil Engineering	
Welding Technology	
Paint Technology	
Corrosion under Insulation	
Latest Non-Destructive Testing Technology	
Vibration Control	
Mechanical Handling	
Commissioning	
Operations Readiness & Assurance	

## Our Strengths

- Professional Engineering Experts run our Training Services.
- Training programs are updated in line with latest technical trends and are applicable to actual implementation.
- In association with and funded by Japanese governmental support, such as JCCP (Japan Cooperation Center, Petroleum).
- Continuous follow-up and support are provided by our overseas affiliates and local partners.

## Our Experiences

**Technical seminars**

**20+ in past 5 years**

**Trainees**

**500+ in past 5 years**

# Case Study : Customized Training for FCC Unit Reliability Improvement

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Technical Assistance  
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## Background:

*A refinery in Southeast Asia was struggling with stable operation of RFCC unit from the start after EPC project*

## Attendees:

*Maintenance and inspection departments and technical service departments at the plant site and headquarters*

## Objective:

*To share information on various problems that occur in RFCC, analysis methods to solve them, and technical advice from refractory vendors.*  
*Workshops are also held to share examples of problems encountered in their RFCC and to discuss how to plan the next turnaround maintenance.*

## Reference Services

Process Safety Management Seminar - JGC Headquarter 2016 for E&P Company in Japan

Plant Life Cycle Management Seminar - JGC Headquarter 2017 for E&P Company in Japan

Process Safety Management Seminar - Online 2021 for E&P Company in Japan

FCC Unit Integrity & Reliability Improvement Seminar– Online 2022 for Refinery in Middle East

FCC Unit Integrity & Reliability Improvement Seminar– Online 2023 for a Refinery in Southeast Asia

O&M Engineering Training – JGC Headquarter 2023 for a Petrochemical Plant in Middle East

FCC Unit Integrity & Reliability Improvement Seminar– Online 2024 for Refinery in South America

## Examples of customized training programs

### Material Degradation and Remaining Life Assessment (Day 1)

1. FCC Unit Process Overview
2. Material Selection and Degradation
3. Remaining Life Assessment Methodologies
4. Experience of Material Degradation and Current Issue (by Client)

### Corrosion Management and Inspection Data Management (Day 2)

1. Corrosion Management Program
2. Corrosion Under Insulation
3. Inspection Data Management System
4. Corrosion Management Program and Improvement Plan (by Client)
5. Workshop - Corrosion Management Program (All members)

### Fitness for Service and Major Replacement Work (Day 3)

1. Fitness for Service Technology
2. Major Replacement Work
3. Advanced Repair Technology
4. Past Experiences and Future Plans (by Client)
5. Workshop – Major Replacement and Repair Planning and Execution (All members)

### Reliability of Critical Mechanical Components (Day 4)

1. Refractory (Vendor)
2. Expansion Joint (Vendor)
3. GRP Piping
4. Future Actions and Wrap Up (All members)