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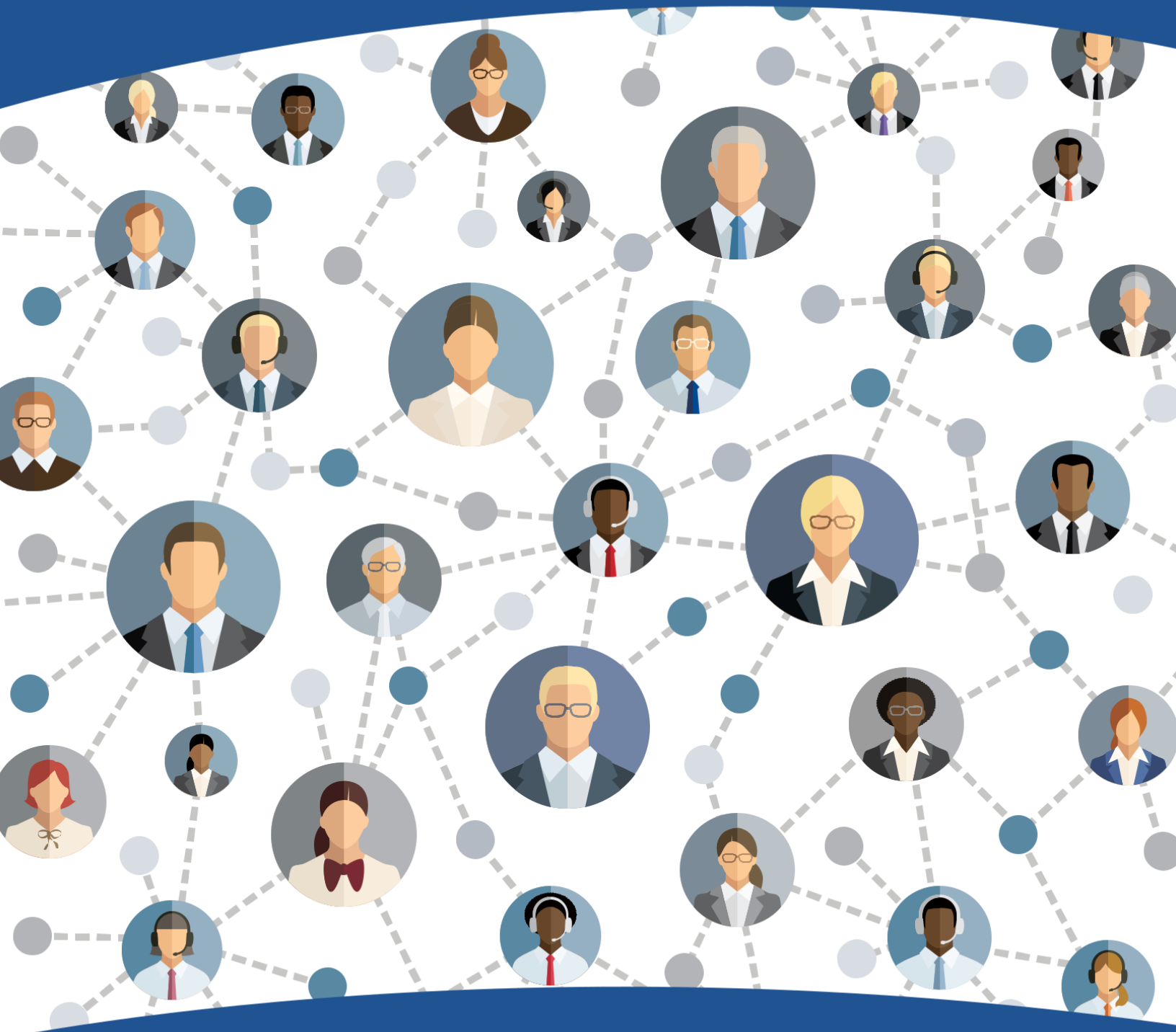

WINNER OF THE AWARD FOR THE BEST TRAINING INSTITUTE IN THE GULF

Gas Turbine Technology

INTRODUCTION

- This Gas Turbine Technology training seminar provides a good knowledge of gas turbine technology and enhance competency in the operation, control and troubleshooting of gas turbines. This training seminar provides participants with an opportunity to acquire a fundamental understanding of many aspects of stationary gas turbine engine performance appropriate to its operation and control.
- The training seminar is intended to supply the participants with the principal of gas turbine operation. Also, to train them in monitoring the behavior of the gas turbine that will help them in enhancing its performance. This training seminar develops a background in gas turbine operation that enables participants to analyze operating problems properly and take the necessary corrective action.
- The training course will be also directed to the tools and the trouble shooting techniques obeyed so as to help them to reach the full understanding of the operation of each system components. Control philosophy of gas turbines will be explained.

This training seminar will highlight:

- Principles of operation of gas turbines
- Design of modern gas turbines
- Control and protection system of gas turbines
- Different stages involved in the operation of a gas turbine cycle
- Problems of gas turbines and recommended solutions

OBJECTIVES

At the end of this training seminar, you will learn to:

- Identify different technologies and applications of gas turbines
- Recognize different parameters affecting the performance of a gas turbine
- Identify the requirements and the procedures for safe start up and shutdown of the turbine
- Understand the importance of TMR control system of the reliability of gas turbine
- Understand how to detect and solve the problems of gas turbines

TRAINING METHODOLOGY

- This Gas Turbine Technology training seminar will be delivered along workshop principles with interactive lecture format and round table discussions for certain topics. Case studies are employed to highlight particular points and appropriate video material used to illustrate particular conditions. It will include interactive worked examples that will allow all participants to use the knowledge they gained to demonstrate their skills in operating, controlling and troubleshooting gas turbine system.

ORGANISATIONAL IMPACT

The knowledge and skills gained by your staff as a result of this training seminar will:

- Improve machine reliability and availability
- Contribute to further reducing gas turbine operation costs
- Preserve the equipment in good conditions
- Improve the performance of the equipment
- Enable measures to quantify equipment condition
- Save money and time by enhancing the troubleshooting skills

PERSONAL IMPACT

Some important benefits for the participants on this training seminar are:

- Enhancing their basic knowledge related to gas turbine operation and troubleshooting
- Better ability to troubleshoot gas turbine problems and avoid recurrence
- Contributing to superior plant safety records and emission compliance
- Better understanding of how manufacturers design and develop gas turbines
- Better ability to operate gas turbines safely and efficiently
- Improving confidence when dealing with suppliers and contractors

WHO SHOULD ATTEND?

This Gas Turbine Technology training seminar is suitable to a wide range of professionals but will greatly benefit:

- All employees involved in the gas turbines technology design, operation, control and troubleshooting
- Mechanical Engineers
- Operators
- Foremen
- Supervisors
- Control Engineers

Course Outline

Basics of Gas Turbines

- Introduction to Gas Turbine
- Simple Gas Turbine Cycle
- Heavy Duty Gas Turbine
- Industrial Gas Turbine
- Aero derivative Gas Turbine
- Advanced Gas Turbine
- Pressure Ratio and Firing Temperature

Design of a Gas Turbine

- Single, Spool and Split Shaft Gas Turbines
- Principle of Operation of Axial Compressors
- Design of IGV, Stators and Rotors
- Can, Annular and Can-annular combustors
- Fuel Nozzles
- Principle of Operation of an Axial Turbine
- Impulse and Reaction Turbine Blades
- Techniques of Internal Cooling of the Blades

Auxiliaries, Protection and Control Systems

- Lubrication System
- Gas Fuel System
- Oil Fuel System
- Hydraulic System
- Starting System
- TMR and Simplex Control System
- Critical Redundant Sensors
- Protection System

Performance and Operation of a Gas Turbines

- Operating Parameters
- Factors Affecting the Performance of a Gas Turbine
- Pre- start check out list
- Start Up and Shutdown Procedures
- Synchronizing procedure
- Normal Loading
- Speed Control and Temperature Control

Monitoring System and Troubleshooting

- Vibration Monitoring and Analysis
- Abnormal Conditions of a Gas Turbine
- Axial Compressors Problems
- Combustors Problems
- Axial Turbine Problems

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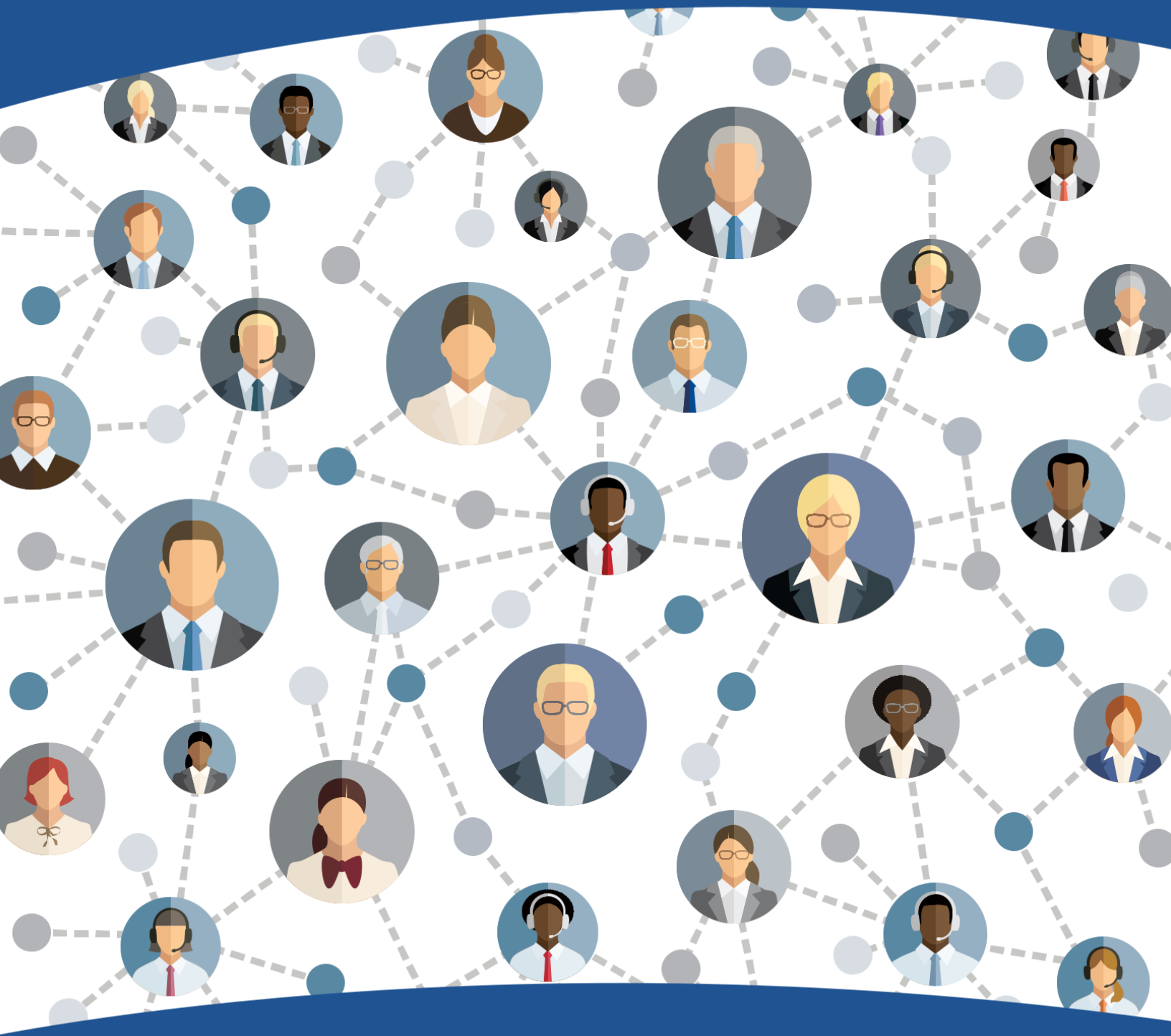

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