

## **HONEYWELL UNISIM DESIGN: FUNDAMENTALS – DYNAMIC MODELLING USING UNISIM DESIGN**

### **COURSE OVERVIEW**

**Course Number: USD-0003**

**Course Duration: 3 Days**

**Prerequisite Course (s): None**

Develop the skills and 'know-how' required for creating and running dynamic simulations using UniSim Design Dynamics.

The course runs over three days. The course is made up of a series of hands-on workshops using examples from the Oil and Gas industry, although the skills learnt can be applied to any model. Each workshop is preceded by an Instructor-guided discussion and demonstration.

### **COURSE DELIVERY OPTIONS**

- Instructor-Led Training (ILT)
- Virtual Instructor-Led Training (VILT)

### **COURSE OBJECTIVES**

- Getting Started in Steady State
  - Build a simple steady state model to use as a basis for the rest of the course
- Pressure Flow Theory
  - Discussion of the theory behind UniSim Design Dynamics and the Dynamics solver
- Transitioning from Steady State to Dynamics
  - Learn techniques to transition cases, apply these to the steady state model built earlier
- Basic Control Theory
  - Revise basic control theory necessary in UniSim Design Dynamics models
- Dynamic Details
  - Introduction to UniSim Design Dynamics high fidelity options (static head, actuator dynamics, valve characteristics, nozzle positions, heat loss models)
- Expanding the Model
  - Make additions to the model whilst running in Dynamics, Look at different control schemes
- Compressor
  - Add a compressor, anti-surge loop and anti-surge controller
- TEG Dehydration Tower
  - Add a distillation column to the Dynamics model
- Event Scheduler
  - How to set up and use the Event Scheduler
- Cause & Effect Matrix
  - Introduction to the Cause & Effect matrix
- Fired Heater
  - Build a model using the Fired Heater (Furnace) unit operation