



**Buisier Engineering provides comprehensive I&C Design to the Upstream, Downstream, and Offshore Oil & Gas Sector**

## Design of Instrumentation & Control Systems in Oil & Gas Fields

Bulk oil and gas production process is extremely critical. Each process required for a given field has to be designed to handle expected reservoir conditions. The product streams coming from the well head throughout the process must be within a product range that the process can handle and pass onto the next process. If the process component does not meet expectations there will be issues with every process in the sequence. Therefore, it is essential that the process component be controlled to allow for precise handling and accurate product-stream measurement.

The importance of the bulk production process control system demands precise temperature, pressure and level interface devices. The metering devices must be capable of handling a wide range of product parameters and flow conditions while maintaining accuracy through field instrumentation and control rooms.

The Instrumentation and Control System Design covers the whole production line.

- Wellheads: pressure and temperature monitoring and control.
- Production and Test Manifolds: multiphase flow and temperature measurement, pressure monitoring, control and emergency shutdown valve.
- Gas and Water Separation: level measurement and control, temperature measurement, pressure monitoring and control, flow metering, isolation and control valves, emergency shutdown valve, gas leak detection and flame detection.
- Gas Compression and Dehydration: gas compression control panel, aftercooler control panel, temperature measurement, pressure monitoring and control, level measurement and control, flow metering, isolation and control valves, emergency shutdown valve, gas leak detection and flame detection.
- Metering and Storage: temperature measurement, pressure monitoring and control, level measurement and control, flow metering, automatic sampling, viscosity measurement, density measurement, hydrometers, isolation and control valves, emergency shutdown valve, lease automatic custody transfer unit (LACT), gas leak detection and flame detection.
- Water Injection Wells: temperature measurement, pressure monitoring and control, emergency shutdown valve.
- Oil and Gas Pipelines: pump control panel, compressor control panel, temperature measurement, pressure monitoring and control, isolation and control valves
- The Instrumentation and Control design is performed in close cooperation of the equipment manufacturer, who is chosen according to his ability to provide the technical after sales service to the client.