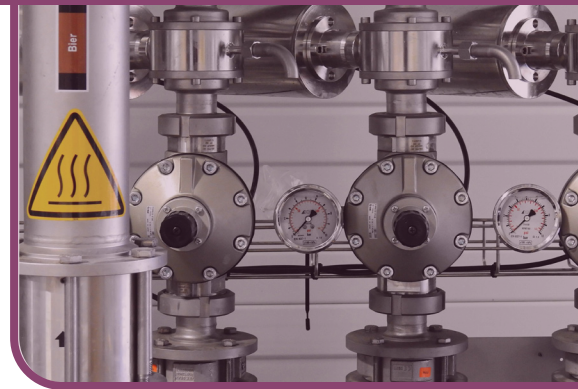


**CONCEPT** SCADA, which stands for Supervisory Control and Data Acquisition, is a system used to monitor and control industrial processes. The five composing parts of SCADA are:

- 1. SUPERVISORY SYSTEM:** The supervisory system typically includes servers, workstations, and software applications for data acquisition, monitoring, and control. It may also include alarm management systems, trend analysis tools, and reporting functions.
- 2. HUMAN MACHINE INTERFACE (HMI):** The HMI is typically a graphical user interface (GUI) that displays real-time data and control options. It may include forms for configuring alarms, setting control parameters, and generating reports.
- 3. REMOTE TERMINAL UNITS (RTUS):** RTUs typically include hardware components such as sensors, transmitters, and actuators. They may also include software applications for data processing, communication protocols, and device configuration.
- 4. PROGRAMMABLE LOGIC CONTROLLERS (PLCS):** PLCs typically include hardware components such as input/output modules, central processing units, and memory. They may also include software applications for programming, data acquisition, and communication with other devices.
- 5. COMMUNICATION NETWORKS:** Communication networks typically include hardware components such as routers, switches, and modems. They may also include software applications for data encryption, routing protocols, and network management. Forms related to communication networks may include network topology diagrams, network configuration forms, and network performance monitoring tools.



## BACKGROUND

SCADA dates back to the early 1960s when the first Supervisory Control and Data Acquisition systems were developed. These early systems were used primarily in the electric power industry to remotely monitor and control power transmission and distribution systems. In the 1970s and 1980s, advancements in computer technology and communication networks led to the development of more advanced SCADA systems that could monitor and control a wide range of industrial processes. With the advent of the Internet and cloud computing, modern SCADA systems have become more powerful and flexible, with the ability to remotely monitor and control processes from anywhere in the world. Today, SCADA systems are used in a wide range of industries, including oil and gas, water and wastewater, manufacturing, and transportation.