

CONCEPT SCADA (Supervisory Control and Data Acquisition) data refers to the information collected from various sensors and equipment in an industrial setting, such as a manufacturing plant, power grid, or oil refinery, and transmitted to a centralized control system for analysis and monitoring.



BACKGROUND

Early SCADA systems were limited by the available computing technology, and data was often collected manually from instruments in the field. In the 1970s and 80s, advances in microprocessor technology and communication networks enabled the development of more sophisticated SCADA systems. These systems began to be used in a wide range of industries, including manufacturing, transportation, and oil and gas. The 1990s saw the emergence of web-based SCADA systems, which allowed for remote monitoring and control. Today, SCADA systems continue to evolve, with new technologies such as the Internet of Things (IoT) and cloud computing enabling even greater levels of automation and data analysis.

REAL WORLD CONNECTIONS

An example of SCADA data in the real world is the monitoring of an oil pipeline. The SCADA system would collect data from sensors along the pipeline, such as pressure, temperature, and flow rate, and transmit it to a central control room. The operators would then use the data to monitor the pipeline's performance, detect any leaks or other abnormalities, and make any necessary adjustments to ensure the safe and efficient operation of the pipeline. In the event of an alarm triggered by an abnormal condition, the SCADA system would also alert the operators, allowing them to take quick action to prevent any potential incidents. SCADA data in this context can help prevent environmental disasters, improve pipeline efficiency and reduce operational costs.