

## Intelligent IT Infrastructure in the Gas and Oil Industry

**Authors :** Ahmad Fahad Alotaibi, Khalid Hamed Hajri, Humoud Hudiban Rashidi

**Abstract :** Intelligent information technology infrastructure is considered one of the enablers to enhance digital transformation in the gas and oil fields to optimize IT infrastructure reliability by supporting operations and maintenance in a safe and secure method to optimize resources. Smart IT buildings, communication rooms and shelters with intelligent technologies can strengthen the performance and profitability of gas and oil companies by ensuring business continuity. This paper describes the advantages of deploying intelligent IT infrastructure in the oil and gas industry by illustrating its positive impacts on some development aspects, for instance, operations, maintenance, safety, security and resource optimization. Moreover, it highlights the challenges and difficulties of providing smart IT services in a remote area and proposes solutions to overcome such difficulties.

**Keywords :** intelligent IT infrastructure, remote areas, oil and gas field, digitalization

**Conference Title :** ICCEE 2024 : International Conference on Computer and Electrical Engineering

**Conference Location :** Sofia, Bulgaria

**Conference Dates :** June 03-04, 2024