

عنوان مقاله:

IoT & IIoT in Oil & Gas Industries

محل انتشار:

هفتمین همایش بین المللی علوم و تکنولوژی با رویکرد توسعه پایدار (سال: 1401)

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خلاصه مقاله:

The Internet of Things (IoT) is used in the oil and gas industry to collect, transfer, and analyze raw data in real time to get a clear picture of processes at the facilities, improve operational efficiency, reduce energy consumption, and drive profitability. Using the network of IoT sensors for oil and gas extraction and processing helps maintain ongoing control in the supply chain and quickly respond to changes. Sensor-based technology can be leveraged to monitor the pressure in the pipes, oversee the drilling process, machinery conditions and detect leakages. In the oil and gas business, IoT technologies help to make maintenance and services safer and more cost-effective. Workers can use the data received from each system to actively monitor overall system performance and determine when repairs and maintenance are needed. Of all industries, oil and gas is one of the most asset-heavy and data-rich. It is high-risk, employs tens of thousands of people within individual companies, and has some of the longest supply chains in the world. Data is constantly being pulled and collected in hugely-varying packets from myriad sources, making it extremely difficult to standardize and analyze. IIoT strategies can provide data virtualization to homogenize data sets and can store vast amounts of information on the Cloud. Many of the greatest risks to both life and profits in oil and gas are time sensitive, but without the IIoT, it is impossible for solutions to be effectively implemented. The adoption of IIoT applications will improve business efficiency, safety, capex and opex, and reduce the negative effects of having .assets spread over a wide area. It's an inevitable transformation

کلمات کلیدی:

IOT, IIOT, Oil & Gas

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