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APPLICATION OF IIOT SOLUTION IN EXISTING INDUSTRIAL SYSTEM [10]

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Abstract: *The Industrial Internet of Things (IIoT) is transforming the automation industry by enabling seamless connectivity, data exchange, and real-time analytics. IIoT solutions, enhance automation in many fields as data exchange and management, facilitate predictive maintenance, and maximize operational efficiency through devices, smart sensors, and more. The MQTT protocol, which is optimized for efficient and lightweight data transmission across low-bandwidth networks by design, is the foundation of a new paradigm in communication systems. An essential component in IIoT solutions is the MQTT broker (like EMQX), which makes data exchange between publishing/subscribing clients, devices, and cloud platforms fast, extremely scalable, safe, and reliable. By playing a key role in the Industry 4.0 concept, gateways allow legacy systems to seamlessly communicate with contemporary infrastructures and also act as a bridge between current industrial applications and IIoT applications. In addition, gateways provide another level of abstractization, which facilitates data transformation and additive context of the data.*

Keywords: *Industry 4.0, IIoT, MQTT, Broker, Gateway*

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