

Process -Technology 2 – IIOT & SCADA

Industrial Internet of Things, IIOT, refers to the use of internet-connected devices and sensors in industrial settings to collect, monitor, exchange, and analyse data. The goal of IIoT is to improve efficiency, productivity, and decision-making in industrial processes.

SCADA, which stands for Supervisory Control and Data Acquisition, is a system used for monitoring and controlling industrial processes, infrastructure, and facilities. SCADA systems play a crucial role in improving the efficiency, reliability, and safety of industrial operations by providing real-time visibility, control, and data analysis capabilities.

Pros	Cons
<ul style="list-style-type: none"> • Ability to overlay thousands of production runs to determine optimum process parameters. • Improved process monitoring and decision making. • Low-cost approach to monitoring non-integrated processes/devices i.e. turbidity at floor drain indicating pipe leak. 	<ul style="list-style-type: none"> • Specialised skills to analyse historical data. • Continuous improvement process. • IIOT product selection critical to success. • Not designed for close loop control.

Technology Cost range: \$20,000 - \$100,000, depending on the complexity of the use case, number of devices, integration and reporting requirements and network infrastructure.

DMC Technology Cost: \$40,000

DMC Cost Assumptions:

- Limited to 1 Manufacturing process plant targeting key assets.
- Existing suitable network infrastructure but limited Wifi.
- Existing SCADA and Process Historian.
- Internal costs for end user staff involvement have not been included.
- Single design and build iteration.

What situation would this technology usually be adopted in? The Industrial Internet of Things (IIoT) and SCADA/Historian systems enable real-time monitoring and analysis of process data from industrial equipment and systems. By collecting and analyzing data, manufacturers gain insights into production performance, identify inefficiencies, and make informed decisions to optimize processes and improve operational efficiency.

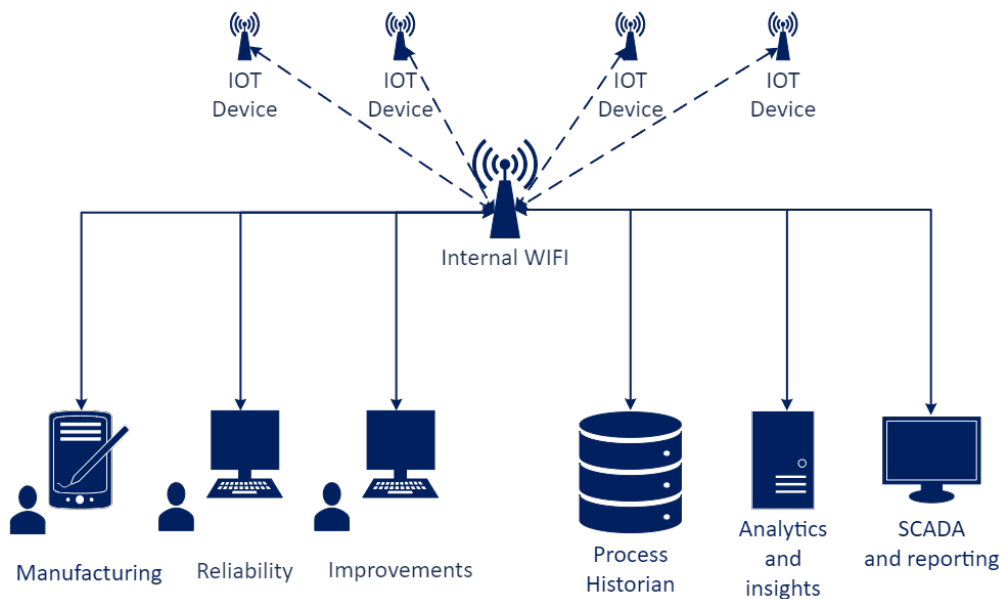
RoI Considerations: Costs may include IIoT sensor procurement, SCADA software licensing, and integration expenses. Benefits may include Reduced downtime, improved equipment utilisation, and increased

productivity contribute to ROI. IIoT and SCADA systems provide real-time visibility into production processes, enabling proactive maintenance and performance optimization.

What skills are required to implement & run this tech? Staff should be trained in IIoT sensor deployment, SCADA system operation, and data analysis techniques.

Pre-requisites for successful adoption: A good appreciation for what data you would like to gather from the shopfloor or processing environments. This can be done through a KPI cascade, linking business overall performance to shopfloor management. A fit for purpose & secure wireless network (for IoT specifically).

Typical Tech Stack



Who can help with this technology? System Integrators and IoT specialist organisations focus on these technologies. They will work with a customer to understand the requirements, design and implement a solution, deploying the solution alongside internal teams.

What to google when researching this technology? Research topics include IIoT sensor technologies, SCADA software platforms, and integration with manufacturing systems.