

Industrial Internet of Things

Industrial Internet Of Things (IIOT) is key enabling factor for Industrial Revolution 4.0.

The 7 principles of Industrial Internet of things as defined by IIOT consortium include

1. **Big Analog Data** - Analog data represents the natural and physical world which includes light, sound, temperature, voltage, radio signals, moisture, vibration, velocity, wind, motion, video, acceleration, particulates, magnetism, current, pressure, time, and location. It's the oldest, fastest, and biggest of all big data, but it represents an IT challenge in that it has more than two values that digital data has.

Simply put, in many ways analog data needs to be treated differently than digital data.

2. **Perpetual Connectivity** - 3M (Monitor, Maintain and Motivate).

3. **Really Real time** - Real time actually begins back at the sensor or the moment the data is acquired. Real time for the IoT does not begin when the data hits a network switch or computer system

4. **The Spectrum of Insight**: The "Spectrum of Insight" derived from IoT data relates to its place in a five phase data flow: real time, in motion, early life, at rest, and archive.

5. **Immediacy Vs Depth**: Shorter Time required to gain deep insight.

6. **Shift Left**: The drive to get both immediate and deep insight from data will cause sophisticated high end compute and data analytics that is normally reserved for the cloud or data center (what I call Tier 4 in the IoT solution), to migrate toward the left of the end-to-end IoT solution infrastructure. That is, deep compute will be positioned closer to the source of data, at the point of data acquisition and accumulation in sensors (Tier 1) and network gateways (Tier 2).

7. **The Next V** : Big data is commonly characterized by the infamous "V's" --- Volume, Velocity, Variety, and Value. The fifth "V" is -- Visibility. When the data is collected, data scientists around the world should be able to see and work with it, as needed. Visibility refers to the benefit afforded by not having to transfer large amounts of data to remote people or locations.

Arcee Automations solution for our customers (Products and Projects) followed many of the principles (From 1-5) prescribed by IIOT consortium.