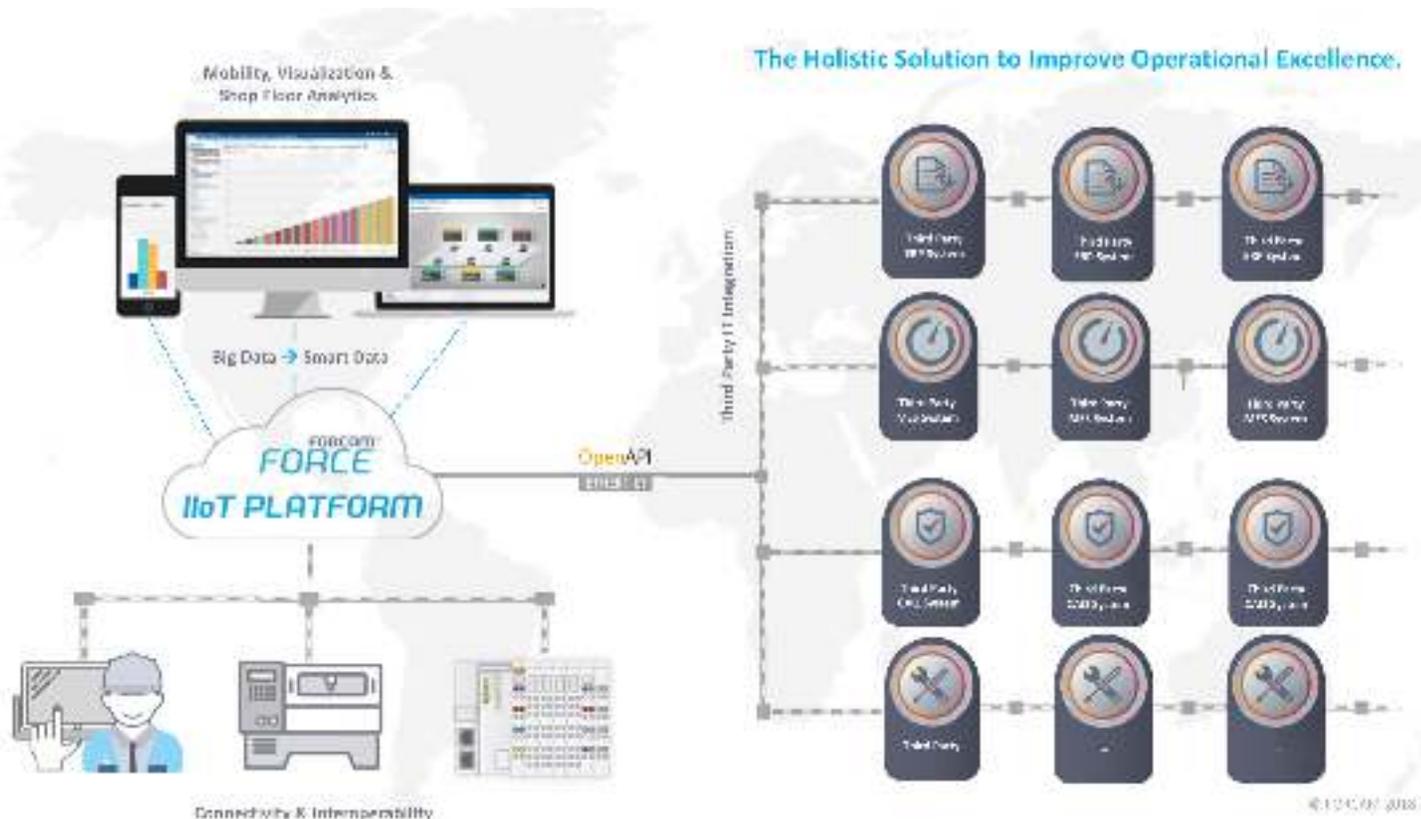


INDUSTRIAL IOT VERSUS MES: TWO PARADIGMS

What an Industrial IoT Solution is and what not?

Industrial IoT	vs.	MES
<ul style="list-style-type: none"> • An agnostic system approach means high flexibility and future security • Access to Best-in-Class Apps and all future Industrie 4.0 Technologies • Open Platform for integration in existing IT-Landscapes via Open API web based interfaces • Linking of systems, i.e. Tool Data Management (TDM). No redundant data management 		<ul style="list-style-type: none"> • Only “homemade” solutions of MES suppliers • Manufacturer dependency that leads to a dead end • Data Silos: Access only possible by licensed manufacturer programs. No thrid party access • Existing systems can only be integrated with high levels of effort and cost • Data is only serviced in the MES. Redundant data servicing required in thrid party systems.



INDUSTRIAL IOT VERSUS MES: TWO PARADIGMS

Data is everywhere in manufacturing.

A common myth as manufacturers cautiously consider the issue of IIoT deployment is that it will require more sensors deployed in more places, creating greater complexity. The truth is just the opposite. IIoT's primary selling point is better analytics of data. Throwing more sensors at a problem might not be as effective as analyzing what information you've already captured to get a true idea of your current state. You may have plenty of data, but without the demolition of our new definition of MES—'Monolithic Enclosed Silos'—you would have no idea whether that data is too much, not enough, or just poorly organized.

Connecting the former silos together in a network that fully captures and considers the data you have today, is by any means what we call a true transparent manufacturing enterprise. It does connect pieces previously walled off in the silos, includes supply chain, operations, personnel, sales and maintenance.

The places where inefficiencies occur most often is where one part of the organization simply doesn't have access to all the information needed to make an informed decision. For example:

- Sales creates an order with a 24-hour turnaround time—normally within the scope of established operational procedures. Sales is unaware, however, that the maintenance schedule calls for the line manufacturing the product to be down for planned maintenance for four hours that day. The order is delivered 12 hours late.
- A new product design requires new parts to be incorporated into the manufacturing process. Unfortunately, the supplier isn't notified and the launch of the product is delayed while the supplier ramps up parts production. This delays sales, marketing and production planning.

- At the peak of the manufacturing season, the sensors indicate a number of bearings are running hot on one of four production lines. There is an opportunity to bring the line down smoothly to address the issue, but what is the issue? Without historical data, it's impossible to tell if when the bearings were last lubricated. It's also not clear without more accurate trending data from all four lines whether this is specific to the one line, or whether all four lines might be susceptible to the same issue.

Such level of insight through connectivity to the shop floor not only makes the business more transparent and helps minimize costly impact, it also allows for modeling of data, so that manufacturing leaders can predict the cost and the operational impact of a decision before putting it on the plant floor. A fully connected operational supply chain can extend beyond the receiving department through to sales, procurement, operations, maintenance and delivery.

Boston Consulting Group (BSG) suggests manufacturers are too slow to adapt IIoT or Industry 4.0 standards. Manufacturing needs to apply processes and controls to improve production capabilities throughout the entire enterprise to remain competitive. There needs to be a strict focus on powerful metrics such as Overall Equipment Effectiveness (OEE) for all CNCs and PLCs in a factory.