5 Key Benefits of Taking a Complete End-to-End Platform Approach to IIoT Adoption

Realizing the full business value of investments in new IIoT projects remains a considerable challenge for many businesses. Although the amount of data being collected in manufacturing is growing twice as quickly as in any other industry, only 35 percent of manufacturers are using data generated by smart sensors to enhance processes.

There are many reasons for this lag in adoption. IIoT projects are typically complex, involving a large number of hardware and software components. Compatibility and interoperability often pose challenges, particularly when multiple vendors are involved. Bringing an IoT solution to market can be costly, and it's common for project timelines to drag on for longer than expected, further delaying time-to-value.

To help our customers surmount some of the biggest barriers to success in IIoT adoption and transform their most innovative ideas into value—faster—Omega recently partnered with and Avnet. As members of Avnet's IoTConnect Partner Program, Omega will be offering a Smart Sensor Suite that's fully compatible with all the hardware and software you need to build a complete sensor-to-cloud technology stack. And the partnership will provide all the advisory, design and build, and support services you'll require throughout your devices' entire lifecycle.

Our customers can combine Avnet's IoTConnect Platform with Omega's IoTConnect-certified sensors, monitors and transmitters in order to:

#1: Build an end-to-end IIoT solution that's both complete and secure.

Security and sensor integration continue to be among the primary obstacles to IoT adoption, but are especially problematic for manufacturers who can't afford unplanned downtime.

Omega sensors interoperate seamlessly in a complete end-to-end IIoT solution, mitigating downtime and security risks. And when all the wired and wireless protocols used for communication between sensors, edge gateways, and the cloud platform are standardized, you can ensure they're uniformly secure. And when a comprehensive end-to-end solution is in place, device-to-cloud security can be built into the platform so that it's consistent throughout the system.

#2: Connect the sensors you already have and leverage existing interfaces to speed time-to-value.

If deploying smart sensors involves extensive modifications to existing equipment and systems, the benefits may not appear to justify the large upfront investment. By using Omega smart sensors that are compatible with those you already use to monitor temperature, pressure, air quality, or humidity in your plant environment, you'll greatly simplify the solution design and deployment process. New connected monitoring technologies can also integrate readily into the existing product and process design. Plus, adding wired or wireless connectivity to sensor interfaces requires no or only minor changes to the hardware.

For instance, a wood pellet grill manufacturer was able to replace a thermocouple already present in the grill's design—previously used to maintain cooking surface temperatures within a

desired range—with a smart version of the same sensor. This wifi-enabled component connects to a mobile application that can control the grill's temperature remotely or can be pre-programmed to automatically follow the instructions in a recipe.

#3: Determine and demonstrate time-to-value with greater certainty at an IIoT project's outset.

Many IIoT projects stall in the planning stages because it's difficult to determine how long it will take to achieve a return on investment or build an adequate business case for the project. It's common, too, for projects to fail during the proof-of-concept (POC) stage, often because the expertise needed to scale up is lacking.

Using sensors sourced from within a single partnership ecosystem like ours can reduce early-stage challenges in IIoT projects. Together, we can provide advisory services to help you build a business case and enable you to predict outcomes far more accurately. When components are seamlessly integrated—from sensors to edge hardware and gateways, all the way to cloud-hosted analytics—it's much easier to stay within budget and on your timeline.

One nationally-recognized motorcycle manufacturer, for example, installed process monitoring sensors in a single factory as a pilot project. From that single IoT-enabled facility, the company predicted, and then experienced, a four percent increase in overall profitability. Previously, the company took eighteen months to deliver custom motorcycles, but with the new IoT infrastructure in place, it was able to do so 25x faster—in just two weeks. Solution scoping, use case identification, and detailed analysis at the project's outset were what enabled the company to achieve these results.

#4: Slash rollout times from months to minutes.

Lengthy implementation times are a near-universal challenge in IIoT projects, and the fact that this process can take much longer than expected often deters would-be adopters from moving forward with new solutions. Plug-and-play capabilities, integrating sensors with edge devices, and cloud platforms make it possible to build out pilot projects far more quickly than would otherwise be possible. They also make it much easier to deploy full-scale platforms, putting sensor-enabled technology within reach for more small to mid-sized manufacturing firms.

With a fully compatible end-to-end IoT tech stack like the one that Avnet and Omega offer, you can build prototypes within a matter of weeks. This process typically takes six months or longer with off-the-shelf or custom-designed solutions.

#5: Simplify the process of connecting sensors to cloud platforms and deliver analytic insights in real time.

When sensors are part of an end-to-end IoT ecosystem that's seamlessly integrated with a collaborative development platform, it's quick and simple to deploy ready-made (SaaS) solutions such as Smart Factory, Smart Asset Monitoring or Smart Connected Worker from Microsoft Azure IoT. You can also customize the platform as needed to perform the right analytics for your business. This can dramatically reduce development time and further accelerate deployment.

Because Omega's smart sensors and Avnet's IoT Connect Platform are natively integrated with the Microsoft Azure IoT platform, customers have access to the full Azure IoT solution portfolio, making it possible to derive valuable insights from your sensor data faster.

In this new partnership, Omega and Avnet are joining together to solve the greatest challenges that have stood in the way of IIoT adoption for many industrial enterprises. Plug-and-play capabilities dramatically shorten implementation timelines, making ROI more certain and time-to-value more predictable. We also bring a full complement of services to support your project through every stage – from planning and design to lifecycle management.

In today's fragmented IIoT marketplace, it can be a struggle for customers to find solutions that simply work together from sensor to cloud, and that's what our partnership gives you.