



Bridging the IT-OT gap in your Industrial IoT project

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Introduction: remote industrial assets

This Companion Report assesses the benefits and challenges of connecting remote industrial assets to cloud-based Internet of Things (IoT) applications. “Remote” industrial assets are equipment deployed outside of a factory or plant environment.

Concrete examples of remote industrial assets include (although this is certainly not an exhaustive list):

- [Commercial HVAC systems](#)
- [Organic waste disposal equipment](#)
- [Gas turbines](#)
- [Aircraft engines](#)

Please refer to the webinar that this report supports – [Bridging the IT-OT gap in your Industrial IoT project](#) –for a comprehensive assessment of the benefits, challenges, and best practices in connecting remote industrial assets to cloud-based applications. Omdia conducted this webinar with [Sierra Wireless](#) and [Microsoft](#) in April 2020.

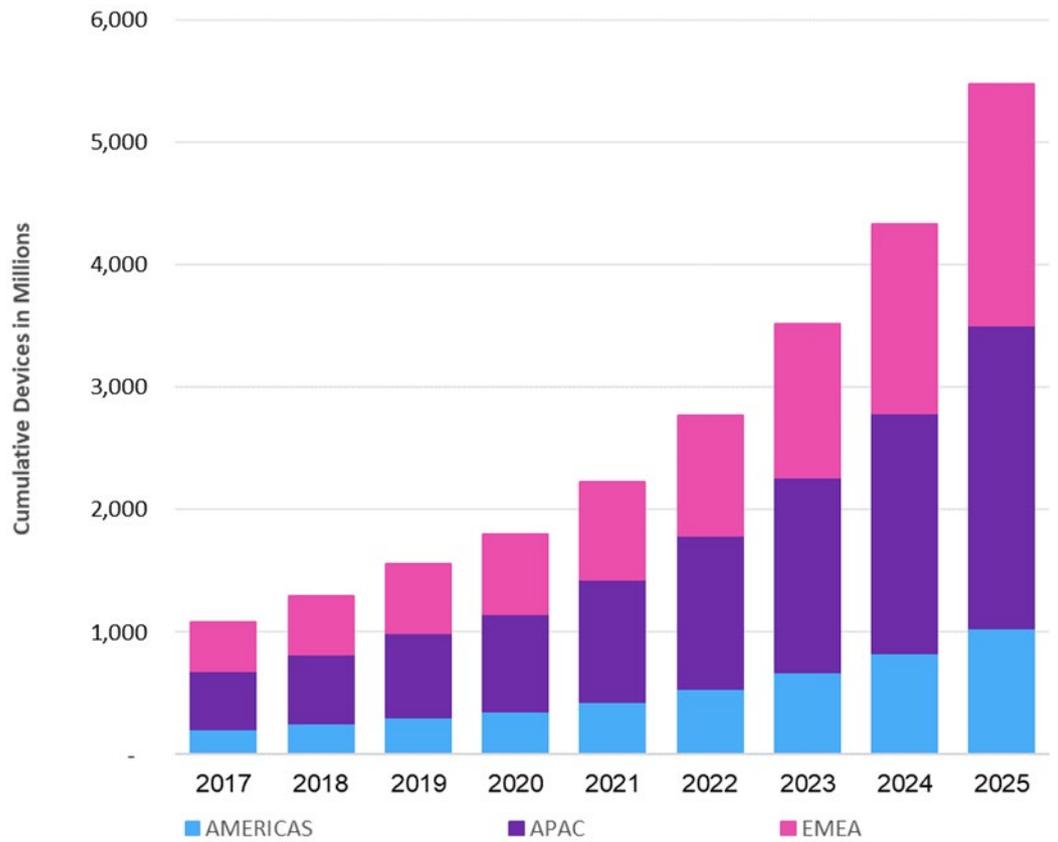
Remote industrial assets increasingly are being connected in Internet of Things applications

There are four fundamental benefits for companies that connect remote industrial assets:

- **Increase operational efficiency** by reducing reliance on error-prone manual processes and by generating asset utilization data that can help optimize operations.
- **Improve safety** by reducing direct human involvement in equipment operation and by generating asset utilization data that can enable safer asset utilization.
- **Enhance regulatory compliance** both through direct compliance with regulatory mandates requiring assets to be connected as well as through more efficient reporting in compliance with traditional regulatory mandates.
- **Enable new business models**, such as “Outcome-as-a-Service,” that potentially expand a company’s overall revenue opportunity and/or enable the company to better support customer preferences.

Due to the benefits described above, Omdia projects the market for industrial connectable devices will grow strongly over the next five years. Exhibit 1, on the next page, illustrates this growth of 1.079 billion devices deployed globally in 2017 rising to 5.473 billion devices deployed by 2025.

Exhibit 1: Industrial Connectable Devices, World Market, 2017–2025



Source: Omdia, April 2020

However, connecting remote industrial assets poses several complex challenges

Connecting remote industrial assets to IoT applications is typically a complex and challenging undertaking for many customers. Companies planning to deploy such applications traditionally took one of two approaches. We call the first approach **“Do It Yourself (DIY)”** and we call the second approach the **“Stovepipe”**.

The **DIY** approach offers significant flexibility and potential for customization to meet specific needs. However, the DIY approach requires the customer to integrate edge devices, connectivity services, device and data management functionality, analytics, cybersecurity, user interface, and interworking with other enterprise applications and systems. Furthermore, the customer needs to manage this integration not only during the initial development and deployment of the application, but also during the ongoing lifecycle of the system.

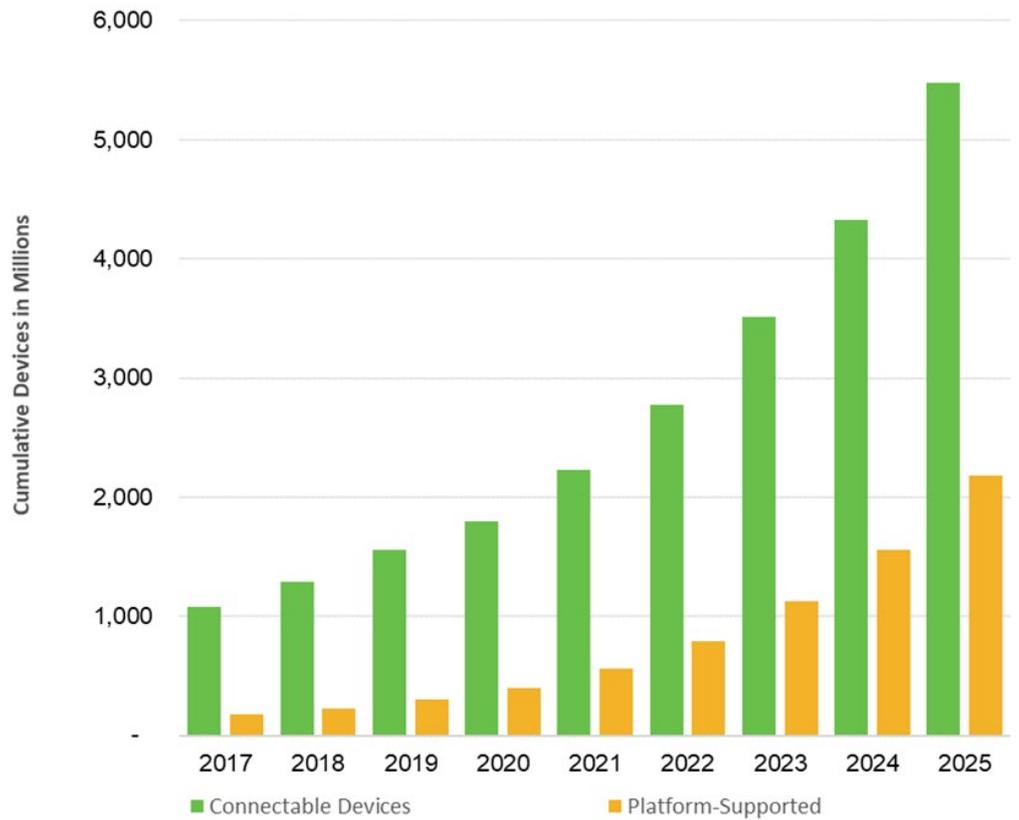
The DIY approach entails uncertainty and risk for the customer and requires the customer to have specialized expertise; for example, in embedded software development. The customer needs this expertise not only for direct development and management tasks, but also to effectively work with fragmented supplier ecosystems.

The customer can reduce uncertainty and risk, and the need for specialized expertise, by hiring a systems integrator or consulting firm to manage the custom development of the application. The tradeoff for the customer is the increased project costs due to engaging a third-party firm to take responsibility for project delivery.

In addition, an increasing number of customers are utilizing IoT platforms to reduce uncertainty, risk, and the need for specialized expertise. There are hundreds of IoT platforms available in the market, and these platforms vary widely in their capabilities and the exact problems they are trying to solve. In general, these platforms seek to abstract away from the customer the need to custom develop features and functionality that are common across different IoT applications, particularly in areas such as device management and data management.

Because of the benefits that IoT platforms can provide, Omdia projects that over the next five years an increasing percentage of the industrial connectable devices, shown in the forecast in exhibit 1, will be managed using an IoT platform. Exhibit 2, on the next page, illustrates this growth in the use of IoT platforms.

Exhibit 2: Platform-Supported Devices, World Market, 2017–2025



Source: Omdia, April 2020

The **Stovepipe** approach entails a customer purchasing one or more complete IoT applications from one or more suppliers. This approach can reduce the uncertainty, risk, and need for specialized expertise noted above. However, the Stovepipe approach reduces the customer’s flexibility, potentially requires the customer to work with multiple suppliers to address multiple use cases, locks-in the customer to specific suppliers, and reduces the customer’s ability to evolve the solution over time.

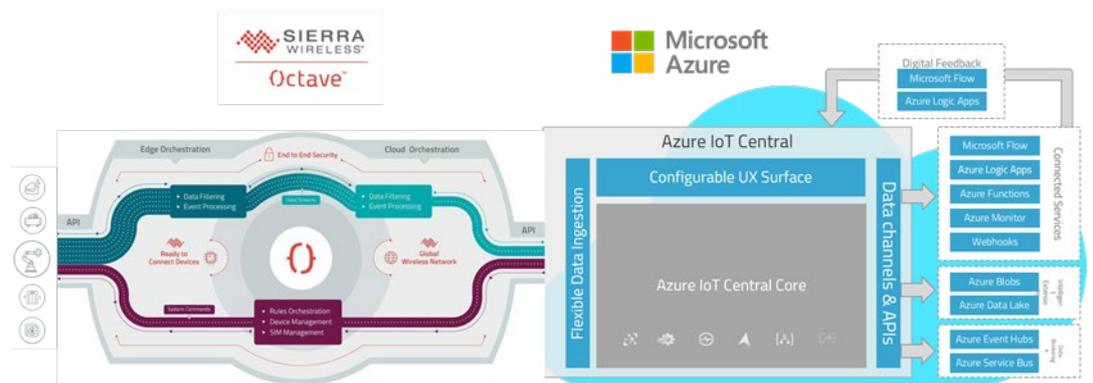
Sierra Wireless and Microsoft: toward “IoT Infrastructure-as-a-Service”

Sierra Wireless and Microsoft are partnering to enable customers to treat the complexity of connecting and integrating a remote industrial asset into a cloud-based IoT application in the same simple fashion as the customer would treat the integration of payment processing functionality from a vendor like Stripe, or the integration of sales management functionality from a vendor like Salesforce.com.

The joint Sierra Wireless Octave™ and Microsoft’s Azure IoT Central solution is more comprehensive in scope than is typical of IoT platforms in the market today. The combined offering enables the development, deployment, and management of remote industrial asset connectivity and data integration from the edge through to cloud based IoT applications and interconnected enterprise applications, such as enterprise resource planning (ERP) systems.

Exhibit 3, below, illustrates how Sierra Wireless Octave™ and Azure IoT Central combine to act as an “IoT Infrastructure-as-a-Service” offering.

Exhibit 3: Sierra Wireless™ Octave in combination with Microsoft Azure IoT Central



Source: Sierra Wireless, April 2020

More specifically, Sierra Wireless Octave™ provides the following key capabilities:

- Management of edge devices and edge communications infrastructure.
- A managed global cellular IoT connectivity service, leveraging Sierra Wireless' MVNO network footprint.
- Orchestration of data to and from edge devices and cloud-based applications.

Likewise, Microsoft Azure IoT Central provides the following key capabilities:

- Low-code and no-code actions with Microsoft Flow and Azure Logic Apps.
- Data connectors and tools for customization and extensibility.
- App templates for priority industry verticals.
- Pre-integration with Microsoft and third-party applications and services.
- Big data management and analytics.
- High availability, scalability, and disaster recovery.

Together, Sierra Wireless and Microsoft offer predictable, messaged-based pricing and pre-integration of their respective offerings and ecosystems with each other.

Bottom line

Connecting remote industrial assets to IoT applications is challenging, and outside the core competence of many organizations using such assets who would benefit from such IoT applications. Leveraging the services of IoT infrastructure vendors, like Sierra Wireless Octave™ and Microsoft Azure IoT Central, provide a means for reducing project complexity and risk.

To learn more

Watch this free webinar

“Bridging the IT-OT gap in your Industrial IoT project”

presented by Omdia and our partner:



The webinar can be accessed at: <https://bit.ly/2XPgDnz>

For additional Omdia events, visit:

<https://technology.informa.com/Events>



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Author

Sam Lucero

Senior Principal Analyst, IoT Platforms

askananalyst@omdia.com

Get in touch

www.omnia.com
askananalyst@omnia.com

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We create business advantage for our customers by providing actionable insight to support business planning, product development, and go-to-market initiatives.

Our unique combination of authoritative data, market analysis, and vertical industry expertise is designed to empower decision-making, helping our clients profit from new technologies and capitalize on evolving business models.

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We hope that this analysis will help you make informed and imaginative business decisions. If you have further requirements, Omdia's consulting team may be able to help your company identify future trends and opportunities.

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