



## CASE STUDY

“For the first time, M2M service providers are leveraging advanced data management technologies to help customers easily build applications that allow them to transform their business, quickly and cost-effectively.”

### HOW TO MAKE MONEY USING APPLICATION ENABLEMENT PLATFORMS IN IOT / M2M

The next generation of machine-to-machine (M2M) architecture goes beyond simple connectivity to give your business high-value information that can be used for strategic advantage.

For the first time, M2M service providers are leveraging advanced data management technologies to help customers easily build applications that allow them to transform their business, quickly and cost-effectively.

With the rise of the Internet of Things (IoT), the uses for M2M applications are growing rapidly as thousands of new users seek access to data from millions of devices. These users are seeking applications that go beyond traditional M2M solutions that post raw data to stovepipe applications.

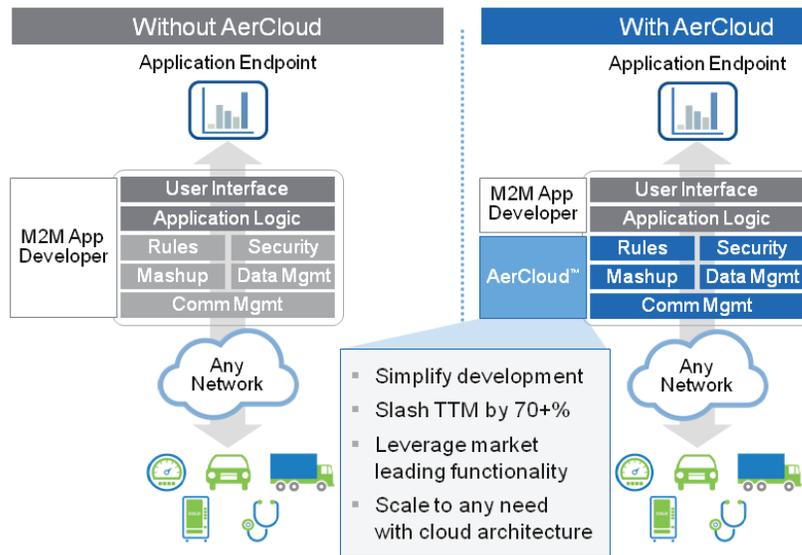
	2012	2018
Worldwide M2M Connected Devices	2.86 billion	10.32 billion
Worldwide M2M Cellular Connections	156 million	1.12 billion
Revenue Producing M2M Units	2.11 billion	7.55 billion

Aeris leads this trend, offering an integrated technology stack — from network to application — that provides a complete solution for IoT / M2M services, including AerCloud application enablement platform.

AerCloud’s abstraction layer provides IoT / M2M data management for applications and eliminates the time and effort spent integrating IoT / M2M devices into the applications. Its functionalities include collection and storage of IoT / M2M data that scales to millions of devices, real-time data analytics, a data-sharing interface that lets data be consumed by third parties, and the ability to push user-defined alerts to applications automatically.

# What Is AerCloud™?

Next generation M2M application enablement platform



The AerCloud platform simplifies application development, so developer can define data models, simulate data collection, and develop and test applications, resulting in a 70% or more reduction in time to market.

The following case studies show how businesses are using AerCloud to create strategic IoT / M2M applications for a competitive advantage.

## SCALABILITY TO MILLIONS

### SITUATION

A large provider of onboard computing and mobile communications systems for long-haul trucking fleets needed to dramatically expand its IoT / M2M programs to create more efficiencies and improve profitability for its cargo management.

When thousands of trucks were added to the fleet, the company's IoT/M2M programs, architected years ago when the company was much smaller, could not scale to meet the new demands and became unreliable and subject to frequent outages.

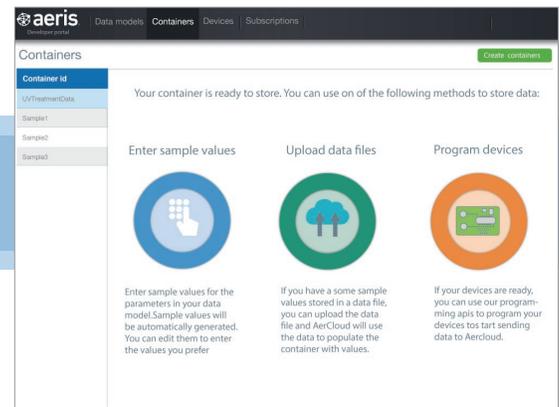
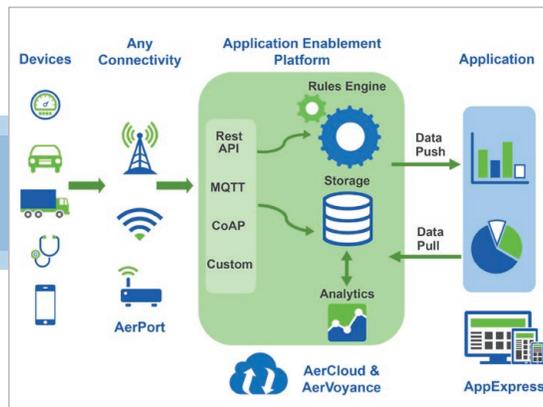
### CHALLENGE

The company had to ensure that all its customers' trucks stayed in constant communication with the fleet applications so important information could be transmitted at all times. The program had to meet the requirements of data publishing from thousands of trucks to support potentially millions of consumers of the data via tablets in the vehicles.

It was not simple to build an easy-to-use solution that offered reliability and scalability. The program needed to free developers from spending too much time on managing infrastructure rather than building strategic differentiators such as application logic and a user interface. The cost and complexity of an architecture that would support the planned growth plans exceeded the company's expectations and required investment outside of its core competencies.

### SOLUTION

To address the problem, Aeris offered an AerCloud solution that let the customer create applications to address its needs and achieve much higher reliability. The AerCloud platform enables unparalleled scalability, supporting millions of devices. Moreover, by using modern cloud technologies, AerCloud automatically



increases the computing and storage capacities allocated to an application during peak periods of incoming traffic and scales back as demand goes down.

Leveraging AerCloud's auto-scaling capabilities, the fleet company gained access to nearly unlimited data capacity for its solutions, allowing it to better manage the increasing number of trucks and IoT / M2M applications serving them. AerCloud is enabling the expanding IoT / M2M network.

## INTEGRATED CONNECTIVITY MANAGEMENT

### SITUATION

A company providing IoT / M2M services for remote healthcare monitoring had to balance the need for long battery life while managing applications on the monitoring device.

The company's battery-powered monitoring devices, with hundreds of thousands of units in the field, normally power on for just five minutes a day to send essential data and then power down. When the device sends data, the IoT / M2M application can execute updates with the devices.

On several occasions, however, a firmware failure disabled the synchronization between the devices and the network server so that the application could not engage with the devices when they woke up and could not update them.

### CHALLENGE

To align the thousands of devices affected by the firmware problem, the company had to trigger a firmware update within the available five-minute online window. With such a brief time in which to react, the company needed systematic notifications of when the devices were online to trigger the update.

### SOLUTION

With Aeris' proprietary IoT / M2M core network — AerCore — the solution was simple; AerCore could provide real-time network updates to AerCloud, and after a device registered on the network, the health monitoring application was alerted and the device was engaged.

Using Aeris' integrated technology stack, the company was able to synchronize the device reporting system and view all the signaling events in the health monitoring network. No other provider can offer such integrated connectivity management.

## ANALYTICS-AS-A-SERVICE

### SITUATION

A commercial aircraft manufacturer using multiple sensors to track a wide variety of IoT / M2M applications wanted to analyze the data and create alerts in real-time for planes under construction. The planes' sensors sent thousands of data streams of hundreds of megabytes per hour about temperature, speed, and vibration.



## CHALLENGE

The manufacturer wanted to look at all data and be able to set triggers for specific events that might require a response, such as when the temperature rose above 50 degrees, when speed went below 200 MPH, and when vibrations rose above a pre-set level. Moreover, the company needed instant alerts so that it could quickly adjust problems and protect its team and investment.

## SOLUTION

AerCloud's integrated, real-time analytics feature, called AerVoyance, is able to handle this information management requirement. With simple drop-down menus tied to data models, the company could easily set rules to generate alerts for anomalies.

## THE FUTURE

As the use cases show, AerCloud provides key features that let businesses use IoT / M2M applications to leverage their most valuable data and keep up with the quickening pace of the Internet of Things. The landscape is changing, and Aeris is leading the move to the next generation of IoT / M2M services

## ABOUT AERIS

Aeris is a pioneer and leader in the market of the Internet of Things – as an operator of end-to-end IoT and M2M services and as a technology provider enabling other operators to build profitable IoT businesses. Among our customers are the most demanding users of IoT services today, including Hyundai, Acura, Rand McNally, Leica, and Sprint. Through our technology platform and dedicated IoT and M2M services, we strive to fundamentally improve their businesses – by dramatically reducing costs, improving operational efficiency, reducing time-to-market, and enabling new revenue streams.

Visit [www.aeris.com](http://www.aeris.com) or follow us on Twitter [@AerisM2M](https://twitter.com/AerisM2M) to learn how we can inspire you to create new business models and to participate in the revolution of the Internet of Things.

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