

The Future of Fleet

How IoT / M2M Telematic Systems are
Transforming Trucks into Mobile
Network Operating Centers

Aeris White Paper



Let our experts lead the way

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INTRODUCTION

The global trucking industry is undergoing enormous change. Older vehicles are being replaced with “smart trucks” using Internet of Things (IoT) and Machine-to-Machine (M2M) systems and cellular communications technologies to transmit essential information for management of the fleet operations.

GROWING MARKET

The market for fleet management in North America is in a growth period which will continue in the years to come; the number of systems in active use is forecasted to grow at a compound annual growth rate (CAGR) of 15.5% from 4.7 million units in 2014 to 9.7 million units by 2019, according to Berg Insight.

Likewise, in Europe, the fleet management market continues to expand quickly, with the number of fleet management systems in active use forecasted to grow at a compound annual growth rate of 14.2% from 3.65 million units at the end of 2013 to 7.10 million by 2018.

In the coming years, these trends will intensify as IoT / M2M telematics will enable ever more advanced business practices that will change the nature of fleet management as we know it. Here are some of the top trends.



FLEET REQUIREMENTS ARE EVOLVING

As commercial fleets begin to enjoy the benefits of IoT / M2M vehicle telematics, the fleet owners and operators are seeking more reliable connections, with flexible rate plans and seamless coverage across many geographic areas and remote locations. In Europe, seamless cross-border operation for the trucks is an essential requirement for these services to succeed.

The commercial fleet programs are also becoming more complex, from the simple need to manage inventory, location, routing, and fuel costs, to requirements for mission-critical reliability, connectivity for life, and innovative market differentiation.

Aeris' customers — i.e., the companies providing these solutions to the fleet owners and operators — continue to add new telematics applications. These on-board applications are helping fleets overcome a variety of challenges above and beyond the projected cost reductions and efficiency gains. For example, new legislative regulations, including tighter carbon emissions and new standards for driver monitoring, require compliance from fleet managers.

Not surprisingly, the market for fleet solutions is crowded, particularly in Europe, and competition continues to grow. The companies providing solutions to the fleet operators must compete on factors other than price: service reliability and availability, rapid implementation of new value-added services, improved customer experience, etc. They must recognize any new needs of the changing fleet industry or new legislation and quickly provide the solutions that meet those requirements.

UNIFORMITY OF CELLULAR SERVICES

Often, the communications technology of choice for fleet applications is cellular. However, the cellular services offered may differ from region to region; what may be a successful product and service in the US may have limitations in Europe and vice-versa.

Traditional cellular operators and cellular service providers may burden deployments with technical methods and business rules designed for human handset and smartphone users.

A simple example illustrates this issue: most smartphone users are small accounts with one — or perhaps a few — SIM cards in that account. Managing the accounts for billing purposes, making payments, and monitoring usage is relatively easy for one (or even a few) SIMs. However, a company supporting the commercial fleet owners, across their many fleets, may have thousands of vehicles that are managed. Requiring and managing a separate account (and SIM) for each cellular device (in a truck) is a prohibitively complex for the company providing the fleet telematics service and for the individual operations managers of the fleets. Fleet Managers must be able to manage group rates, billing systems, reporting and analytics for process improvements.

When developing fleet applications using cellular technologies, the device certification requirements are sometimes daunting. Companies developing products for operation in new regions must have experts in IoT / M2M that have a thorough understanding of the specific certification requirements in the region.

FLEET SOLUTIONS AND TRENDS

THE RISE OF BIG DATA AND ANALYTICS

Big Data, and the analytics it enables, gives fleet management systems with telematics capabilities the ability to provide much more sophisticated information in the form of applications customized for individual companies. ABI Research confirmed the growing role of Big Data in IoT / M2M, estimating that integrating, storing, analyzing, and presenting IoT data had reached \$5.7 billion in 2015.

Cloud-based IoT / M2M data management platforms enable trucking managers to fine-tune their operations. They can access new applications in real-time to determine reports on temperature, road safety, traffic congestion, weather, mileage, and fuel costs. Multiple apps can be integrated, for example, combining weather and road safety to achieve a more precise picture of conditions and save time.

MANAGING DRIVER BEHAVIOR

New systems integrating information about weather, traffic, and other factors give the drivers instant feedback on safe driving practices in an effort to decrease driver error and achieve better gas mileage. Managers can create detailed data-based plans to advise drivers on eliminating unsafe driving behaviors like speeding, fast cornering, and hard braking or acceleration.

For example, a driver might be able to receive information about recommended speed as he approaches dangerous sections of a roadway where a recent storm has left ice patches. This information could be transmitted from a wide variety of methods, including from texts and voice, or displayed on a console.

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SOPHISTICATED DIAGNOSTICS

IoT / M2M systems enable the development of applications that can identify vehicle issues and instantly notify drivers about maintenance requirements in order to avoid costly repairs and roadside breakdowns. Drivers can receive updates on a variety of truck performance metrics that can lead to improved efficiency, safety and overall condition of vehicles.

REGULATORY CONSIDERATIONS

Cost savings brought about by on-board telematics solutions are needed to help truck fleets overcome a wide range of regulations threatening to inhibit cost-effective management. New regulations, including tighter carbon emissions rules, as well as new standards for drivers, are putting pressure on managers to comply. Legislation can mandate new fleet standards that can force companies to upgrade fleets or even replace vehicles. Rising fuel costs continue to reduce margins.

While US fleet managers have always enjoyed “single market” benefits of roaming, fleet managers in Europe have had to worry about high roaming fees as they moved across country borders. But the European Commission has adopted a “Digital Single Market,” calling for, among other things, the end of all mobile roaming fees for voice calls, SMS, and data by 2017. Once put into place by member countries, these digital strategy requirements would push roaming costs down and could result in equality between domestic and international costs across Europe.



SMART ALERTS

Enhanced alerts management allows fleet customers to define custom alerts with an array of options in addition to predefined system alerts. Fleet managers can define alerts and notify drivers about issues regarding engine performance, tire pressure or electrical malfunctions, and thus reduce costs significantly.

USAGE-BASED INSURANCE

The ability of IoT / M2M systems to deliver instant driving data from a variety of sources creates multiple insurance-related benefits for both truck owners and insurers.

For truck owners, such systems can fast-track claims processing and more efficiently help resolve claims. For insurers, premiums can be calculated on actual usage and driving behavior to reduce costs and increase profitability.

CUSTOMER INTEGRATION

Enhanced IoT / M2M platforms enable the development of more sophisticated ordering, tracking and supply chain systems that increasingly integrate truck loads with customers in real-time. For example, these systems enable real-time changes to orders, which maximize the efficiency of deliveries.

With these new systems in place, the truck of the future will become a mobile network operating center for fleet managers, who can direct it to best advantage on a moment's notice.

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.

Our global headquarters is in Silicon Valley (Santa Clara, California). Our European headquarters is near London, UK. Visit www.aeris.com or follow us on Twitter @AerisM2M to learn how we can inspire you to create new business models and to participate in the revolution of the Internet of Things.

Get in touch



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