Imagine how the cost to operate a truck could be reduced if the data sensors throughout the vehicle were connected to an on-board computer running analytics. Data collected throughout the truck could be compared to benchmarks and could provide instant feedback about whether maintenance were needed, whether the truck were being operated optimally under the current conditions, or even whether fuel were being wasted unnecessarily. Now multiply that potential efficiency gain by the number of vehicles in a typical fleet: tens, thousands, or even tens of thousands of vehicles. The benefits could turn out to be massive.

Vnomics, a software company based in Pittsford, NY, helps companies realize these potential gains since its founding in 2008. The next version of Vnomics Fleet Management System, due for release later in 2015, is based on the Intel® IoT Gateway. The Vnomics software reads, analyzes, and displays the data collected from a vehicle's sensors and then sends that data to the Intel IoT Gateway, which in turn securely sends the data to the cloud.

Vnomics' next in-cab product, like the current version, will be powered by an Intel® Atom™ processor. With the new product Intel is also providing—through Intel IoT Gateway—end-to-end fleet telematics, processing power, data security, data management, and communication services. The Intel IoT Gateway provides the reliable infrastructure, scale, data security, and onboard computing capability needed to realize the power of the Internet of Things (IoT) and to allow even more truck fleets to reduce costs.

Challenges to Fleets

Truck fleets have hit a plateau with early fleet-management tools, such as speed governors and Global Positioning Systems (GPS), and they are searching for new ways to improve efficiency and gain savings. At the same time, the need to comply with new laws such as the Electronic Logging Device (ELD) mandate is motivating fleet companies to seek out simple, efficient, and automated logging solutions.

In terms of cost savings, driver performance is one of the biggest potential sources of vehicle efficiency gains. The way an individual driver controls a vehicle significantly affects not only the fuel costs associated with running the vehicle, but also safety and the costs of wear and tear. Coaching drivers to operate their vehicles more efficiently has traditionally been difficult to achieve, however.

Vehicle maintenance also tends to be inefficient. Typically, issues requiring maintenance are noticed only when they are serious, which can increase the cost of repair and the vehicle’s downtime.

Finally, truck fleets need to improve their logging. The new ELD Mandate will soon require all long-haul trucks to log their drivers’ hours of service electronically. An automated solution for logging driver hours could ensure compliance in a simple way and would help improve logging accuracy and efficiency.
The Vnomics Fleet Management Solution with Intel IoT Gateway

The Vnomics fleet management solution with Intel IoT Gateway equips truck fleets with the hardware and software to meet these challenges. Vnomics provides the end-user applications such as driver coaching, truck navigation, fuel management, vehicle monitoring, and asset management. And now, new in the next release of the Vnomics Fleet Management System, Vnomics will connect seamlessly to the software and hardware components of the Intel IoT Gateway, known for its high security, performance, scalability, and reliability.

Features and Benefits

Vnomics fleet management software provides feedback to drivers, displaying performance data and analyzing interactions between the driver, vehicle, load, terrain, and environment. Vnomics uses this data to deliver driver coaching, pro-active maintenance, and facilitated compliance.

Specifically, the In-Cab Advisor® feature shows driver-performance metrics, driver scorecards, and suggestions for improving fuel efficiency. Real-time alerts for shifting, fast accelerations, speeding, and idling provide feedback coaching drivers to become safer and more efficient, and to put less wear-and-tear on the vehicle.

For pro-active maintenance, the Vnomics solution performs data monitoring of key systems. It detects early component failure, displays warnings and alerts prioritized by severity with probable causes, and suggests remedial actions for the fleet to take.

To facilitate compliance, Vnomics electronically logs driver hours and allows electronic filing of eDVIR. The quick-view logbook summary also saves time at roadside inspections.

A Gateway to Fleet Savings

The Vnomics solution has helped truck fleets achieve significant fuel savings, lower training costs, reduced wear-and-tear, minimized downtime, simplified compliance, and improved safety. And now, by relying on the robust and secure Intel IoT Gateway and other IoT-infrastructure components provided by Intel, Vnomics can scale to help even more fleets improve their operational efficiency reliably and securely.


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**CASE STUDY 2**

Klein Steel Service

**CHALLENGES:**
- Customer service
- Productivity
- Fuel economy

**SOLUTION:**
- Vnomics fleet management system

**RESULTS:**
- 9.2 percent improved MPG in 6 months
- $3,680 per month fuel savings
- ROI within 10 months

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Intel technologies' features and benefits depend on system configuration and may require enabled hardware, software, or service activation. Performance varies depending on system configuration. No computer system can be absolutely secure. Check with your system manufacturer or retailer or learn more at [intel.com](http://intel.com).

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