

## Mobile Fleet Management Solution Delivers Improved Driver Behavior and Fuel Economy



*Jeff Baer - Founder and CEO*

**CEO CFO:** *Mr. Baer, would you tell us the idea behind LinkeDrive?*

**Mr. Baer:** In the transportation industry there are some tremendous issues that are unresolved by older technology platforms. Most of those issues are related to regulatory compliance, not having access to enough truck drivers and managing operating costs including emissions and environmental needs. We are specifically focused on delivering driver-centric fleet management solutions to the trucking industry. We believe the first generation of fleet management software was built by the enterprise for the enterprise with the state-of-the-art tools available at that time...tools which are now a bit archaic, inflexible and obsolete. Open source software is redefining enterprise mobile resource management and we are at the forefront of that movement. The specific issue we solve immediately is driver behavior and fuel economy through our patented real-time driver-coaching platform: **PedalCoach™**. With PedalCoach in the cab and in the cloud, we are now delivering the next generation of fleet management solutions, starting with the user in mind and unencumbered by the legacy IT systems that are so costly to change or upgrade.

**CEO CFO:** *What is PedalCoach™?*

**Mr. Baer:** PedalCoach is an app that runs on a mobile device, such as a tablet, within the cab of commercial vehicles and is connected to the engine control unit either wirelessly or via cable. It runs our algorithms that are patented and proprietary, giving us the unique ability to set up a custom target for that commercial vehicle no matter where it is going, how heavy it is loaded, or who is driving. In a way, it is similar to a "FitBit" for a truck. In parallel, the application also aggregates and posts that data through web services to the cloud and that is where our location-based fleet management suite begins.

**CEO CFO:** *What are you measuring?*

**Mr. Baer:** Our technology measures how much fuel it takes to move the truck from a stop. With that data, we can determine how much fuel it will take to move that specific truck at cruising speed, and we use this in part to set an efficient target. Most of the other solutions are basic driver aids based upon vehicle speed or engine speed, which are lagging indicators for fuel economy. We focus on the fueling of the truck and how speed responds, enabling us to deliver a simple but effective coaching tool. PedalCoach works because it frames the problem around, "How much fuel ('Chemical Energy') entered the system, and how much speed ('Kinetic Energy') was generated as a result," in a brilliantly simple and effective application of chemistry, calculus and physics.

**CEO CFO:** *Would you drill down a little more?*

**Mr. Baer:** We have determined that at least 30% of the actual MPG a truck achieves is the sole result of the driver; 70% is everything else except the driver (traffic, weather, and truck specifications, for example). This driver impact on MPG contribution number of over 30% is also published by the American Trucking Association, Daimler, and Cummins. In plain English, it means that we could drive from Florida to Boston one after the other in the same class and load of vehicle, maintain the same average speed, arrive at the same time, and have up to 30% different MPG. This results in hundreds of dollars of savings potential for most commercial trucks. PedalCoach helps to close that window. For commercial vehicles, we can usually save at least 10% or 11% of whatever their fuel costs are right now. Drivers love it because it is fair, fun, and they are able to earn some of the savings.

**CEO CFO:** *Are you able to know what that driver is doing that is causing the difference?*

**Mr. Baer:** The answer is definitely yes. We know what they are doing the moment they are doing it. It is real-time coaching. Other competing solutions typically rely upon critical events. For example, when the driver depresses the gas

pedal or the brake pedal firmly, each instance appears as a critical event on a driver scorecard. Before PedalCoach, that was pretty much state-of-the-art for driver management. It turns out that this a decent approach for improving safety, but it does not directly correlate to fuel economy in the same way that our data has proven to do. Frankly, we have heard in the industry that less than 20% of the drivers that have a scorecard ever actually get it reviewed. It is an ineffective tool for improving driver performance with respect to fuel economy. Are we able to use critical events? The answer is yes, but rather than dinging or beeping at you whenever you violate a critical event threshold, what we say is simply “keep it in the green.” What that means is there is a stoplight in the application. The green light on the stoplight corresponds to how much fuel you should be using, which corresponds to how far you press the gas pedal. For typical auto drivers a Ford Taurus or F150, what we do on a typical day-to-day basis does not really change a much. We have a vehicle with a high power-to-weight ratio...with plenty of excess power available. On the other hand, imagine an eighteen-wheel semi truck: if it does not have a trailer on it, it is pretty light. But if it does have a trailer on it, it is a lot heavier...and if it has fully loaded trailer, it is quite a bit heavier. You may have a range from 20 thousand lbs. all the way to 80 thousand lbs. Our unique ability to set the right target in spite of whatever changes happen to that truck is unique and that is what we patented with PedalCoach. Even better is that our customers aren't required to provide any load or truck details -- we infer everything needed with the data from the engine, web and our algorithms.

**“With PedalCoach in the cab and in the cloud, we are now delivering the next generation of fleet management solutions, starting with the user in mind”- Jeff Baer**

**CEOCFO: *What can they do to make a difference?***

**Mr. Baer:** The conventional way most people drive is that they push the pedal a little bit further to get up to speed, and then back off once they get to cruising speed. Drivers typically use more fuel to accelerate and then they settle in and hold that speed relatively constant. Between Florida and Boston, which is relatively flat, there are many slight grades up and down. If you were to pedal a bicycle from Florida to Boston, or from Tampa to St. Pete, you would go over a series of small inclines. If you were to pedal that bicycle and wanted to average exactly 15 miles per hour, the last thing you would do is pedal at exactly 15 miles per hour because the very small grades would make your body do a lot more work and you would realize it so you would slow down. Conversely, when you went over that hill and started down the other side, you would speed up so you would achieve an average speed of around 15 mph, but you would do this naturally because your body's cardiovascular system informs your brain that you are pushing it. Whenever a human is placed into the driver seat of a vehicle, especially a commercial vehicle, they become disconnected the strain of that engine.

The idea for PedalCoach came from the battery industry, which is the market in which I had been working in previously. Here, we sold lithium ion batteries that were MIT-designed and made in America. We had customers that wanted a certain number of miles to be delivered and we saw this driver behavior problem manifest itself in that some drivers could travel twice as many miles daily as others with the same battery. The way the driver handles acceleration and changes in elevation have a big impact in your MPG. Our PedalCoach tool helps you bring the vehicle up to speed very efficiently and helps to maintain that same speed on average through even the slightest changes in elevation.

**CEOCFO: *Is PedalCoach in use today?***

**Mr. Baer:** Yes. PedalCoach is installed in over 20 carriers across the country. We focus on local and national trucking companies, mostly for hire, but we have been installed in a number of vocational trucks as well. Those fleets are of various sizes -- they are as small as 10 and as many as a couple thousand tractors and drivers. They have come to us to buy PedalCoach to save fuel in a way the drivers embrace. As noted regularly in *The Wall Street Journal* and other major publications, there are over 48 thousand open positions available for truck drivers! Much of the technology that is useful to save fuel in trucking is not very driver friendly. These solutions often take the driver out of the loop and sometimes even try to do the job for the professional driver. With Daimler having a self-driving truck in prototype, there is an impending viewpoint that trucks can drive themselves and so we do not need drivers. In my opinion, we will need drivers who know how to drive trucks for at least for two more decades. We are the only tool available that gives control back to the driver and provides them with a fair target and pay-for-performance that improves driver retention while improving fuel efficiency. PedalCoach is a simple to use, easy to install software solution that integrates seamlessly with any of the devices or specifications that our customers have already adopted to save fuel.

**CEOCFO: *What are the carriers purchasing exactly?***

**Mr. Baer:** We license software-as-a-solution (SaaS) technology with a little bit of hardware. We are capable of providing the mobile device if our customers want...or run our mobile platform on their existing Android devices. We have an adapter that plugs into the network on the truck and provides the data to the software running on a mobile device. We

work with our web service to send that data into the cloud and then render the analytics tool that is used to keep feeding the Pay-for-Performance program. We offer all of that for a monthly license fee.

**CEOCFO: *What has been the driver reaction so far?***

**Mr. Baer:** They love it! We have drivers that are just getting started and they have told us it is fun. We have very experienced drivers that embrace PedalCoach and are quickly finding that it provides ½ MPG or more improvements. They tell us that the job can otherwise get a little boring but we have turned it into a bit of a competitive game. Whenever the drivers key off or stop, they are able to see a leader board summary which shows where they stand next to their peers. We assign a score to the driver so somebody with a light load and tail wind that might get a very high MPG will still have to work at it a bit to score that 98% to 100%. It is highly interactive and engaging.

**CEOCFO: *Do your customers understand immediately when you show them what LinkeDrive can do?***

**Mr. Baer:** People understand the concept immediately. People often say that it makes sense, but wonder if their drivers will follow it. That is why the Pay-for-Performance program is incredibly important. If you are going to ask drivers to work on any new program and you are going to make a few changes that are going to save on the order of three or four hundred dollars a month for the truck, then they ought to have some skin in the game. The drivers understand it right away. Management may be skeptical that the drivers will follow it, but through reference accounts, we are able to show quickly that if drivers follow it, they are going to save from 8% - 11% in fuel costs...and that is worth a lot of money. We then supply the Pay-for-Performance program that puts a lot of that back in the hands of the drivers.

**CEOCFO: *Do you have the funding necessary for the push that seems to be coming now?***

**Mr. Baer:** Yes. We are funded by a combination of angels and management, though we are considering accepting offers from several strategic investors in early 2016 to fuel burgeoning growth.

**CEOCFO: *Why pay attention to LinkeDrive and PedalCoach, today?***

**Mr. Baer:** A great deal of the initial wave of development of the Internet, follow-on businesses and enterprises were solely focused on virtual business. At the end of the day, The Internet of Things (IoT) requires *things* to be moved. There is no better way to do that in North America, or anywhere in the world, than through trucks. The trucking industry has tremendous problems that need to be solved and we need companies like LinkeDrive to deliver data-driven human-centric enterprise software with today's open source architecture that is fast, efficient, scalable and flexible. It is relatively inexpensive from a hardware perspective. Yet it is allowing the entire trucking industry with our fleet management platform to take advantage of some of the solutions that, in a previous generation, were only available to the largest of carriers. The fact that goods need to flow to consumers means that this problem is going to exist until we can tele-transport without any wheels on the ground. In the near-term, there are not enough drivers. Regulation and technology is not yet ready to have trucking without truck drivers, and we are at the forefront of delivering the call for a new generation of fleet management solutions with a modern platform designed not simply by the enterprise and for the enterprise, but with the user in mind too, which is the professional driver. Over 80% of drivers already have a smart phone in their pocket and they are comfortable with that technology. They expect that the enterprise software and systems that they use in the cab of that truck to manage their work flow from day-to-day will be as easy to use and powerful as that device in their pocket. We have an advantage over some of the existing solutions because everything we have is built on that mobile solution. With our solutions, commercial vehicle operators are able to save fuel, reduce accidents and retain drivers. This translates to a lower cost per mile and higher asset utilization, which are both key in the high-volume, low-margin transportation industry.

Interview conducted by: Lynn Fosse, Senior Editor, CEOCFO Magazine

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## **LinkeDrive, Inc.**

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