



Heavy Truck Manufacturer Fleet Management Offerings

Industry Research Whitepaper

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Industry research whitepaper

Heavy truck manufacturer fleet management offerings

The three leading suppliers of heavy trucks on the European market – DaimlerChrysler, Scania and Volvo – have all developed fleet management services for the European market. Dynafleet Online by Volvo Trucks and FleetBoard by DaimlerChrysler have achieved installed bases of around 25,000 vehicles each, including systems installed on trucks by other manufacturers. Scania has achieved much lower numbers.

Figure 1: Heavy truck manufacturer fleet management services (January 2006)

Service	Manufacturer	Customers	Vehicles
Dynafleet Online	Volvo Trucks	1,300	25,000
FleetBoard	DaimlerChrysler	800	25,000
Scania Fleet Management	Scania	<100	3,000
<i>Total</i>		<i>2,500</i>	<i>56,000</i>

Source: Berg Insight

DaimlerChrysler

DaimlerChrysler is among the largest automotive groups in the world and the leading supplier of heavy commercial vehicles on the European market. With 385,000 employees the group achieved revenues of € 142.1 billion in 2004. The commercial vehicles division has six brands – Mercedes-Benz, Freightliner, Setra, Fuso, Sterling Trucks and Western Star Trucks.

Mercedes-Benz is the brand name for Daimler-Chrysler trucks on the European market. Freightliner and Fuso are the primary truck brands in North America and Japan respectively. In 2004 year the Mercedes-Benz delivered 46,000 heavy trucks in Europe, which corresponded to a market share of 19.8 percent.

FleetBoard fleet management solution

FleetBoard is a telematics based Internet service designed to make transport more efficient. The service provides data about the drivers, vehicles and delivery cycles to support fleet operations. Data is retrieved from in-vehicle equipment and then securely delivered over the Internet when needed. T-Mobile provides the mobile network communication services for FleetBoard together with its international roaming partners. The FleetBoard solution comprises three types of in-vehicle devices:

- **FleetBoard on-board computer** connects to the vehicle CAN-Bus and has an integrated wireless modem that is used for communication with the FleetBoard system over GSM or GPRS.
- **DispoPilot** is a terminal unit fitted in the driver's cabin for mobile job status, messaging and navigation. The terminal features a colour display and a keypad for data input and uses the on-board computers for wireless communication.
- **Sound40Pro** is an in-vehicle device that can be fitted on the dashboard in all commercial vehicles, including vans. It combines all communications in a single device offering a comprehensive multimedia environment with telephone, hands-free speech facility, navigation system, audio and GPRS connectivity.

The FleetBoard services divide into two sections, driver and vehicle management and logistics management. Each can be purchased separately but when purchased together they interconnect for a seamless solution.

Figure 5.2 – FleetBoard pricing plan (Germany 2005)

Service	Monthly charge
FleetBoard Mapping	€ 9.00
FleetBoard Logistics	€ 45.00
FleetBoard Messaging	€ 0.00
FleetBoard Trip Recording	€ 13.00
FleetBoard Service	€ 5.00
FleetBoard Performance Analysis	€ 23.00
Mapping Plus (Mapping, Messaging, Performance Analysis)	€ 19.00
Vehicle Management (All except Logistics)	€ 43.00
Transport Management (Mapping, Logisitcs)	€ 52.00
Advanced (All)	€ 87.00
Mapping Plus FMS (Mapping, Messaging, Performance Analysis)*	€ 19.00
Advanced FMS (All)*	€ 69.00
Vehicle Management FMS (All except Logistics)*	€ 25.00
*Limited functionality on non Mercedes-Benz trucks	

Source: DaimlerChrysler

FleetBoard Driver & Vehicle Management allows constant analysis of driver and vehicle performance from data provided over the CAN-bus and the use of the driver's identification card. The services work with all new Mercedes-Benz trucks, as well as all vehicles with FMS compatible CAN-Bus systems. One of the key benefits is reduced fuel consumption of 5 to 15 percent. FleetBoard Driver & Vehicle Management comprises four telematics services:

- **Performance analysis** means the ability to analyse by exception the performance of an individual driver, who is identified by his individual driver card. The driver's technique is constantly evaluated and given a grade of 1 to 10.

- **Trip recording** documents in detail the entire course of a trip. Among other things, the travel and stoppage times, the position, the weight of the vehicle, the consumption and its average speed are displayed.
- **Service** is a tool for recording and planning service and maintenance activities. Detailed information about the service condition of important power units, due dates and due distances for individual vehicles is available on the service portal.
- **Messaging** is a direct two-way text communication line between the fleet manager and the driver. The service is also an integral part of FleetBoard Logistics Management.

FleetBoard Logistics Management assists and supports dispatchers in allocating work in an optimum way in a fleet. Moreover it reduces the dispatcher's workload and speeds up his work. The service works with all commercial vehicles, light or heavy, regardless of make, age or type. In that it is possible to implement the same fleet management solution across a mixed fleet of vans and trucks. FleetBoard Logistics is an integrated service for trip and delivery management with four key functions:

- Trip Planning enables dispatchers and drivers to plan trips as orders are entered into the system directly or through third party systems.
- Trip Monitoring keeps track of individual journeys so the dispatcher knows the latest status of the order at any time.
- Customer Delivery Status Monitoring allows customers to track the status of an order independently.
- Delivery Status and Navigation reports the delivery status to the dispatcher in several ways.

FleetBoard Mapping is an additional digital road map service that can be used with both Driver & Vehicle Management and Logistics Management. The service displays the location of a single vehicle or the entire fleet on a digital map of Europe in near real time. Vehicle journeys, including trip duration, stop time and average speed can all be displayed visually. The map can be zoomed quickly in or out and the level of detail is unsurpassed. At maximum zoom all streets are named, one-way streets are identified and important locations, such as filling stations are displayed.

Customers can choose freely among the services offered as part of FleetBoard and either subscribe to individual services or service packages. All customers are charged a yearly fee of € 149. Additionally there is a setup fee of € 65 for each vehicle that is equipped for the service. Service packages cost between € 19 and € 87 per month, including communication charges, as shown in figure 5.2 below. Pricing is lower for FMS-compatible vehicles of other makes due to more limited functionality.

Scania

Scania is a leading manufacturer of heavy trucks and buses as well as industrial and marine engines. The company also markets and sells a broad range of service-related products and financing services. Scania has sales and service organisation, finance companies and production units worldwide. It is a global company with operations in Europe, Latin America, Africa, Asia and Australia. The headquarters are located in Sweden. During 2004 Scania supplied 30,000 heavy trucks on the European market and had a market share of 8.9 percent in this market segment. Group revenues in 2004 were € 6.1 billion and the total number of employees was around 30,000 people.

Scania Fleet Management service offering

Scania Fleet Management offers three service categories – transport management, vehicle management and driver support as outlined above. System data is available to users through the Scania Fleet Management web portal. Additionally Scania provides GSM/GPRS communication subscriptions in cooperation with Vodafone that covers all of Europe. The GPRS communication is encrypted and is available at a fixed price, even when roaming in international networks, which gives customers control over costs.

Transport management comprise the following services that increase operational efficiency and cut transport planning and administration costs:

- **Scania Order Support** – gives a fast and efficient way of handling job orders. It is designed to be integrated with your existing transport management system and allows job orders to be sent out and monitored from the office.
- **Scania Driver Log** – makes it easy for drivers to accurately record activities and time. It can be integrated seamlessly with an existing salary administration system. Alternatively its logged data can be viewed in report form on the Scania Fleet Management web portal.
- **Messaging** – allows exchange of text messages with individual vehicles or groups.
- **Positioning** – gives vehicle positions in text and latest vehicle status without contacting the drivers.
- **Tracking** – enables operators to track progress of each vehicle along its route – as well as showing any alarms.
- **Office Map** – provides detailed map with positions of vehicles and Scania workshops; includes zoom and search functions.

Vehicle management services monitor vehicle and driver performance in order to enable improvements that reduce operating costs and improve uptime:

- **Vehicle Data** – automatically collects and presents vehicle information on distance, speed, fuel consumption and odometer readings.
- **Trip Report** – automatically collects and presents more detailed information about individual vehicle, driver and trip performance.
- **Zone Alarm** – sends an alert if vehicle leaves a specified geographical area.

- **Vehicle Alarm** – sends an alert when the theft alarm, alarm button or a connected external alarm is triggered.

Driver support services designed to increase driver productivity, comfort and convenience:

- **Moving Map** – a map with GPS vehicle position, route planning and Scania workshop locations, as well as zoom and search functions.
- **Navigation** – optional service giving turn-by-turn voice and visual instructions down to street number level.
- **Camera View** – shows view from an appropriately mounted camera on vehicle's computer display.
- **Phone** – GSM mobile phone with text messaging, large digits, hands-free operation and address book.
- **Drive Time** – current, daily and weekly information about driving times, mandatory rests and reminders for the driver to comply with EU regulations.
- **TV** – an optional extra available for off-duty entertainment when the truck is parked.

Scania Fleet Management on-board computers

At an early stage, Scania opted for using Windows PCs adapted to the vehicle environment as the technology platforms for its telematics solutions. According to the company there are several advantages with this approach. An open standard architecture greatly facilitates implementation of custom end-user specific solutions. Customers can easily install industry specific third party software or deploy tailored IT solutions that integrate with existing logistics or other IT systems. Scania actively supports third party system integrators by providing open APIs. In the long term, the company's vision is to transform the driver cabin into a more office-like environment. The PC architecture also enables integration with peripheral systems inside

the vehicle. For instance the vehicle computer may function as control unit for a crane on a crane lorry or a lifting device in a garbage truck. Moreover, driving logs can be dispatched automatically if a digital tachograph is connected to the computer.

Figure 2: Scania on-board computers features comparison

Feature	Communicator	Interactor 300	Interactor 500	Interactor 600
Communications	GSM/SMS	GSM/SMS/GPRS	GSM/SMS/GPRS	GSM/SMS/GPRS
Computer in dashboard	No	Yes	Yes	Yes
Screen size	N/A	6.3 inches	10.4 inches	10.4 inches
Windows access	No	No	Yes	Yes
3rd party software	No	No	Yes	Yes
FMS support	Yes	Yes	Yes	Yes
Hardware keyboard	No	No	Yes	Yes
Installable in other makes	Yes	Yes	Yes	No

Source: Scania

Scania offers three on-board computer models – Scania Interactor 300/500/600 – and a communication device for passive data collection – Scania Communicator. The devices support the FMS standard and all except Interactor 600 can also be installed in trucks from other manufacturers in mixed fleets. Each device is tailored for a specific customer need:

- **Scania Interactor 300** is specifically designed for everyday transport logistics and transport management services. The device is a small computer with colour screen that is fitted to the dashboard. All Scania Fleet Management services are supported except for phone, camera view and TV.
- **Scania Interactor 500** is a versatile rugged on-board Windows XPe computer for all truck makes. The device includes a full function PC with large 10.4 inches colour touch screen that is fitted to the dashboard. All Scania Fleet Management services

are supported and application software running on Scania Interactor 500 can access the Internet and collect or send information over the web.

- **Scania Interactor 600** is a tailor made Windows XPe computer for Scania P- and R-series trucks. The device includes a full function PC with large 10.4 inches colour touch screen and an integrated GSM/GPRS modem that is fully integrated in the dashboard. TV is an optional extra feature and there is also a built in DVD-reader.

Volvo

The Volvo Group is one of the world's leading manufacturers of trucks, buses and construction equipment, drive systems for marine and industrial applications, aerospace components and services. The three truck brands – Mack, Renault Trucks and Volvo Trucks – have highly competitive products and worldwide market coverage. Other businesses are Volvo Buses, Volvo Construction Equipment, Volvo Penta, Volvo Aero and Volvo Financial Services. Altogether the Volvo Group has approximately 81,000 employees, production in 25 countries and operates on more than 185 markets. Net sales in 2004 amounted to € 22 billion. Volvo Trucks and Renault Trucks delivered 35,000 and 27,000 heavy trucks respectively in Western Europe during 2004 and had a combined market share of 26.3 percent.

Dynafleet Online

Dynafleet Online is an Internet based transport information system from Volvo Trucks, developed for the European market. The system is marketed in 18 European countries through dealers and dedicated resources. Around 1,300 customers have installed the system in 25,000 trucks so far. Around 20 percent of the trucks are non Volvo vehicles and 60 percent of the trucks using Dynafleet Online had the system installed from the factory. There is not yet so much integration towards other IT systems and according to Volvo about 10 percent of their customers integrate towards other systems.

All communication between the office and the driver is by text messaging, which reduces the risk of misunderstanding. The message module looks like a normal email program, and generally has the same functions. Additionally the system gives information in real-time concerning where the vehicle is, fuel consumption, planned routes, drivers' hours, service intervals and much more. All the information is automatically transmitted to Dynafleet's database where it is analysed and presented in easy to understand reports. The report function is web-based and is offered as a bundle of ten different pre-defined reports to make it easier to get started. The choice is varied and it is possible to analyse specific vehicles, drivers or entire fleets. Dynafleet Online also has a service calendar that gives the user better control of each vehicle's service plan. The system tells customer when it is time for a vehicle to visit the workshop, e.g. for an oil change. In this way the customer can effectively manage the fleet and make the running of operations as smooth as possible, without unnecessary and costly interruptions.

Dynafleet Online includes four types of in-vehicle telematics devices:

- **Dynafleet LT** is a basic passive device providing driver time information, driver activity management, vehicle information and GSM data communication.
- **Dynafleet CT** offers the LT functionality plus messaging, positioning, tracking and order forms.
- **Dynafleet IT** offers the CT functionality plus a colour display with an optional rear view camera, location on the map inside the truck and traffic information.
- **Dynafleet NT** is an optional navigation system for turn by turn navigation, featuring traffic information over RDS-TMC and integration with Communication/Information Tool and a colour display.

Installation of Dynafleet LT/CT/IT in-vehicle telematics devices cost € 1,385, € 2,120 and € 3,680 respectively as shown in figure 5.4 below. Customers can choose between two different Dynafleet Online service packages with flat rates for data traffic, according to their needs. The

least expensive package is for predefined reports only and cost € 37 per vehicle and month. A complete package with access to all functions provided in Dynafleet Online cost € 75 per vehicle and month.

Figure 5.4 – Dynafleet Online pricing plan (Europe 2005)

Product	Installation	Monthly charge
Dynafleet LT	€ 1,385	According to Dynafleet Online pricing plan.
Dynafleet CT	€ 2,120	According to Dynafleet Online pricing plan.
Dynafleet IT	€ 3,680	According to Dynafleet Online pricing plan.
Dynafleet Online (Reports)	€ 0	€ 37 including SIM and GSM/GRPS traffic.
Dynafleet Online (Complete)	€ 0	€ 75 including SIM and GSM/GRPS traffic.

Source: Volvo Trucks

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