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TECHNICAL SESSION III: Safety through Technology
TOPIC: Fleet Operations / Management

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Satish Mudgal: Good morning everybody! My name is Satish and I represent Volvo India.

S. Gangopadhyay : I have to introduce you to the audience. Mr. Mudgal is in the construction and mining equipment industry for approximately twenty years. He has held positions in areas of maintenance and repairs of heavy earth moving machines, in mining and road construction companies. In the last seven years of tenure at Volvo Construction Equipment, he is involved in enhancing dealer customer service solutions and after-market business. Currently, he is engaged in improving and development of customer support agreements and implementation of Telematics that is Caretrack.

Satish Mudgal: Just to give a brief idea of what Caretrack is, I'll start with playing a video...a one minute video on Caretrack (*Then he played the video*). So that's Telematics and Volvo and the use of Telematics in Fleet Management is a topic that is being discussed today.

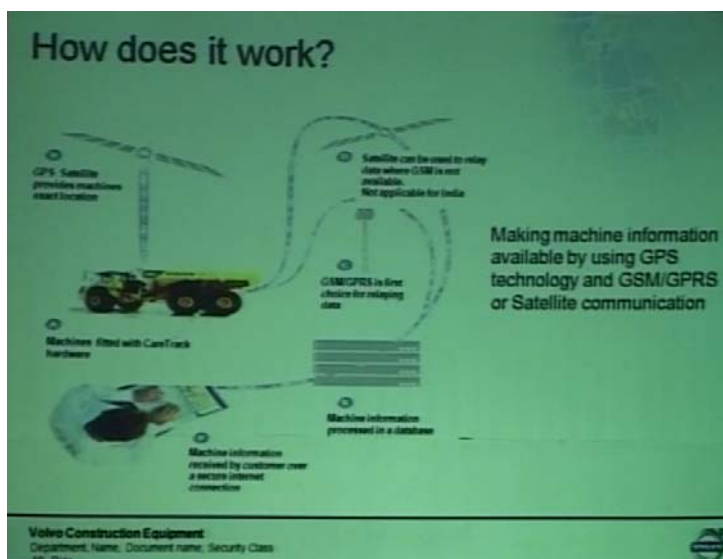
Telematics was introduced in Volvo Group around ten years back, and we have used it on transport, i.e. on trucks, buses, construction equipments which business Volvo is into. Basically, Volvo offers a complete solution on transport and financing. Our core values are Quality, Safety and Environment Care.

To start with safety, which is of prime importance, the focus is on personal safety, work safety and machine related safety. So what are the changing trends today? It is customer first and it starts with customer demand and expectations from the industry. When he has a project, for example a mining project, the key factors that drive the project are the cost or the full cost of the project. The second thing that

he relies on is the total cost of the maintenance of his machines, the total life cycle cost and to support that, we, as OEMs, and along with our dealer principals and dealers, do support them to concentrate on their core business. The next thing he would also like to know is the assured cost of the business. He would not like to have any escalations during the tenure of the project and also the cost per ton approach. This is an increasing demand from all the mining contractors in this industry. And he also expects to have a long term vision of what could go wrong on the machines and couple all these things. We should have a human touch so that the customer understands what all of this means to him.

Through technology i.e. through telematics, which we increasingly use in fleet management and also coupled with call centre, whenever there is a problem, the customer could call on a toll-free number. There is prior information of what is going wrong with his machine. These are transmitted via SMS and email and he is also provided with a brief view of the cost of the machine for the life-cycle.

What is Caretrack? Caretrack is a state-of-the-art telematics system. So there are controllers, as the previous speakers have mentioned. There are controllers on the machines, which sense the various parameters in the components that are fitted on it and Caretrack or telematics acts as a postman and delivers the same information back to the server, wherever it is fitted. And through the servers, this information goes to either customers or dealers, via SMS and email. It is designed to work with the electronic system of the Volvo Machines providing the information and it also helps to manage the equipment with faster information i.e. as and when it occurs. It is almost real time information that gets transmitted as and when a problem occurs on the machine and it also helps us to plan parts, manpower, which can improve the productivity and increase the machine utilization.



This is a brief illustration of how it works. The GPS Satellites provide the location of the machine, and the information that is on board in the electronics is collected and transmitted via GSM networks or GPRS networks. It is transmitted via these networks to the servers wherever placed. Right now, we have one in Sweden.

This information is classified into three groups – one is Mapping and Tracking. It helps us and gives us the location of the machine. We can also make a virtual Geo Fence of the machine, so that whenever it crosses the boundary of, for example of 10 kms, it gives us an SMS or an email saying that it has crossed it. This helps contractors wherever they have deployed machines on rent. And also Time Fence. Suppose we need a particular machine to be started somewhere at 8 in the morning and then stop by 5 pm in the evening. After that, when the machine is started, there is an alarm going out to the owner saying that the machine is being utilized after a certain time. And then the Status Report. It gives us the HMR or the machine hours which it has clocked. Second are the Operation Reports, which gives us the machine hours. Exactly how many hours it was parked during the day or how many hours it was being used. It also gives us the fuel consumption, work versus park percentages and productivity reports. Productivity reports are measured on the material that is dumped onto a dump truck. The onboard weighing systems – it collects the information from the onboard weighing systems and transmits to the Caretrack portal.

Under Service Management, we have various information on area codes and alarms that is being generated. For example, like engine oil, pressure drops and temperature and pressures of various components are noted and transmitted and then the dealers or the service providers can also plan for service. For example, if a clock says 250 hours, there is an alarm that comes to the dealer or the customer that there is a service due after say 25 or 30 hours.

Notification Setting - the number of users or the number of people concerned with the machine maintenance can get this notification. Any number of users can be added.

Matris – It is another programme that is incorporated into the machine that can log the history of the machine right from the day that it was commissioned till the end of its life, say 5 years of 30,000 hours etc. So under Mapping and Tracking, as explained, this is Geo Fence and Time Fence, we can create virtual boundaries or time fences and also provides the Status Report. Under Status Report, we can ping to the machine, extracting the latest hour meter at this point of time. Operation Reports are downloaded from the machine and are available on the portal on daily, weekly and monthly basis. These reports can be subscribed to, so we need not actually login to the portal to get this information. There is an outer email that is generated that could be viewed as graphs or spreadsheets. Machine utilization and

there is fuel consumption, work verses park percentages. This helps the operator to note the operator efficiency. If there is extra fuel consumption, then how the operator can be trained to actually reduce the fuel consumption and operate in a more optimum way.

Work Shifts – We have a feature in Caretrack where we can exactly point out the particular operator and the shift and the fuel consumption at that point of time.

Machine Reports – These are for comparison of various operators. We can exactly pinpoint what was going on at that point of time on the machine. So this helps a fleet owner who has got more than a few machines like 10-15 machines. We can organize the maintenance, we can plan for parts and also the workload that would be encountered for the repairs or overall as and when it comes.

Remote Trouble Shooting – Sometimes, there are some alarms or errors that occur on the machine and this could be even solved through a phone call or just by guiding the operator, who is using the machine. This is integrated into We Care call centre. We have a toll free number where the customer is able to call to the dealer or the supporting service provider for diagnosing what is the problem whenever it occurs. So that is it. There are customer support agreements at various levels. This, coupled with Caretrack, is an efficient way of providing service to the customer. So this is the level of service. Right now, we are somewhere at Services 1 - which is the Construction Equipment Industry, Services 2 – it's the Arrow Industry where they are more organized and wherein the reliability of the components are more stringent. That is Service level 2 and Services 3 is the in Health Care Industry, where it is almost a partnership programme with the customers or the consumers and the owners of these equipments. So there is a far way to go and Caretrack is a one step ahead that helps us to manage our fleet. Thank you.