

SanRemo[®]

Join the evolution

Productivity service with remote monitoring for surface drills

+ MACHINE LOCATION = BIEN HOA / VIETNAM

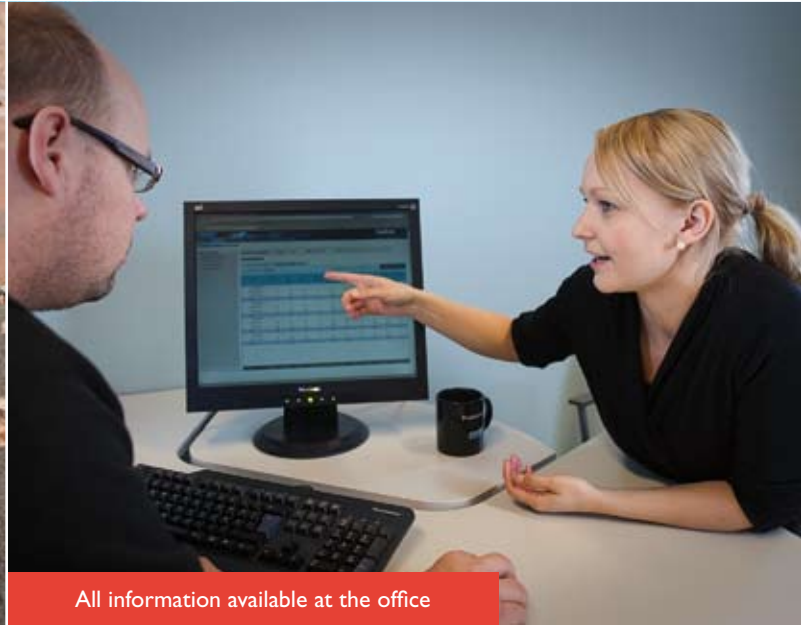
+ HOURS TO NEXT SERVICE = 72

+ CURRENT ENGINE HOURS = 8:24

+ FUEL USED PER METER = 1,3 L

+ DRILLED METERS BY DAY = 252

+ NUMBER OF HOLES = 21



All information available at the office

SanRemo[®] drills to the core of productivity

Productivity is key in any area of rock excavation. Achieving targets and working efficiently requires reliable, constant and real-time information from the site. Until recently, it has been a challenge, though, to receive this information. But not anymore.

SanRemo[®] productivity service offers an easy way of planning and following up production – it is all about knowing what is going on at the site. SanRemo service tells you everything you need to know about the work progress, issues affecting it, as well as the condition of the equipment – easily, reliably and fast.

JOB SITE AT THE OFFICE

SanRemo is based on remote machine monitoring. It is easily accessible everywhere on the web: you just go to the service portal at

<https://mysanremo.sandvik.com>, enter your personal user id and password – and accurate real-time job site data is available at your fingertips. You can see productivity, performance and maintenance data as well as the location of the machines in your fleet. Based on this comprehensive data, you can immediately detect any changes in efficiency and machine utilization, reliably measure and forecast projects, and make precise maintenance schedules without ever leaving the office.

The SanRemo service not only decreases the number of required site visits, but, due to increased predictability, also the costly, unexpected production stops. You can offer and invoice accurately as well as follow up long-term trends. Enhanced control of the process translates into clear improvements in the excavation result.

Calculations supported by real life experiences show that SanRemo increases the production time by half an hour per shift. This equals 15 drilled meters. Annually, it means 66 000 tons more excavated rock.

Three service levels

Make your choice

The SanRemo service is available in three levels: **Platinum***, **Gold** and **Silver**. Silver level gives access to basic production reports, machine location and maintenance reports. If you choose the Gold level, site specific production reports and fuel consumption reports** will be added. Platinum level brings access to operator specific reports, work stage follow up, drill bit reporting and information sharing between sub-contractor and main contractor.

REPORTS FOR EVERY NEED

The SanRemo production reports supply you with information on production, performance and equipment usage level. They are based on the parameters such as drilled meters, number of holes, average hole depth, engine hours, rock drill percussion hours, level of usage, average

penetration rate, average time per hole and fuel consumption.

SanRemo also offers reports for maintenance management based on the actual equipment usage. It shows the estimated date for the next maintenance and the count down time. Consequently, the maintenance can be scheduled precisely and the required parts ordered well in advance. The service can also offer full equipment service history. An independent rock drill follow up can be added as well.

The SanRemo service includes a GPS-based tracking function. This shows the site location on the map with Google maps as well as the exact site coordinates. Location information helps optimizing transportation routes for the machine and the field service personnel.

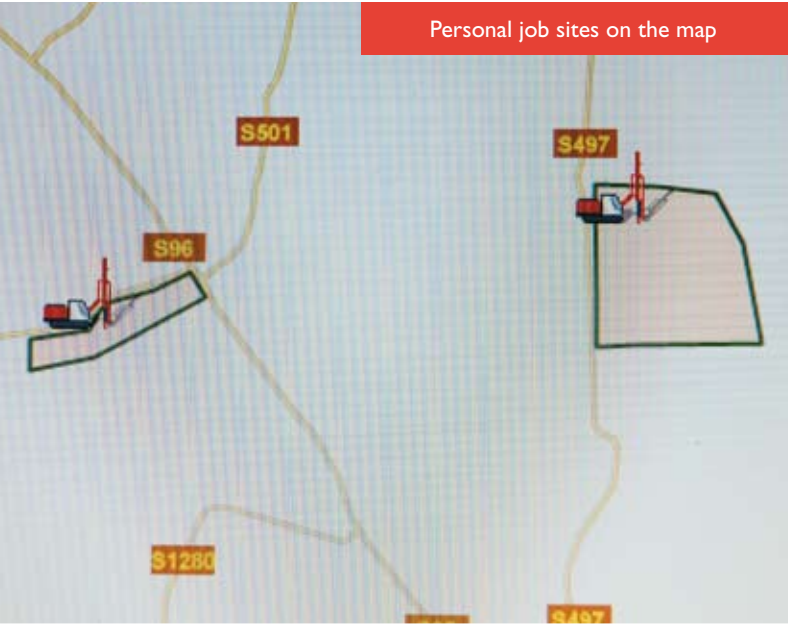


		DX / DP			DPi		
		Silver	Gold	Platinum (available Q4/2010)	Silver	Gold	Platinum (available Q4/2010)
Production reports	BASIC PRODUCTION REPORTS						
	Drilled meters / Drilled feet	X	X	X	X	X	X
	Engine hours						
	Percussion hours	X	X	X	X	X	X
	Utilisation rate	X	X	X	X	X	X
	Drilled holes	X	X	X	X	X	X
	Average drilling depth	X	X	X	X	X	X
	Average drilling time / hole	X	X	X	X	X	X
	Penetration speed	X	X	X	X	X	X
	Drilled meters / engine hour	X	X	X	X	X	X
Production reports	FUEL CONSUMPTION REPORTS						
	Total consumption (litres/gallons)		X**	X**		X	X
	Consumption per hour		X**	X**		X	X
	Consumption per meter		X**	X**		X	X
	Consumption per hole		X**	X**		X	X
Production reports	JOB SITE REPORTS						
	Define job site areas on map		X	X		X	X
	Production reports by job site area		X	X		X	X
Production reports	i-SERIES REPORTS						
	Operator report (production by operator, statistics)			N/A			X
	Work time statistics report			N/A			X
	Drill bit report			N/A			X
Production reports	SHARING OF PRODUCTION REPORTS						
	Report sharing between subcontractor and main contractor			X			X
Location	MACHINE LOCATION						
	Machine location & coordinates on map	X	X	X	X	X	X
Service	SERVICE & MAINTENANCE						
	Service schedule and service reporting	X	X	X	X	X	X
	Service history report	X	X	X	X	X	X

*Only with DPi series

**Available for DPi and DX & DP series when equipped TIM 5300-6500

Personal job sites on the map



Available for older models too

Simplicity for the pleasure of use

PERSONAL SERVICE

The modern and clear user interface of the SanRemo system is designed for every day use. It appreciates the fact that different types of users have a need for different kinds of information. Therefore, SanRemo **views and reports can easily** – by dragging and dropping – **be customized** to meet the personal needs of different users. The reports can also be exported as PDF or Excel.

All your information is **protected by https protocol**. It guarantees that unauthorized persons can never access any of the data available at the service. It is also possible to have several access levels within a company as the level is defined by each individual user id.

WHAT ARE THE REQUIREMENTS?

The hardware SanRemo includes a data collection module and a GPS receiver. The receiver is an option to the new rigs but it is also available as a retrofit kit for older models. In order to receive production reports, the rig needs to be equipped with TIM2300 or newer version.

The system **works in GSM network**. It applies GPRS technology in communication between the rig and the SanRemo server. SIM cards are delivered with the SanRemo system package, installed and activated.

Productivity in Action

Sandvik is a high-technology engineering group with world-leading positions in selected areas – tools for metal working, advanced materials technology, and mining and construction. We employ more than 47 000 people and are represented in 130 countries.

Sandvik Mining and Construction represents one third of the overall Sandvik Group and serves a broad range of customers in construction, mineral exploration, mining and bulk materials handling. Our construction expertise covers quarrying, tunneling, demolition and recycling, and other civil engineering applications. Our mining products and services support customers on the surface and under ground, in all mineral, coal and metal mining applications from exploration to ore transportation.



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