

BRING CRUSHING INTO THE LIGHT

SanRemo for Crushers automation and control system





THE LIGHT OF CERTAINTY

Business success comes down to what you know. When you have the facts at your fingertips, you can make smarter decisions. And when margins are tight, it's even more essential to know exactly how you're using your equipment. But in some operations, certainty is hard to come by.

Crushing, for example, is still in the dark ages when it comes to data and hard facts. Time for that to change.

SanRemo for Crushers is a revolution in crusher automation and control. This radical new approach replaces guesswork with certainty. It gives total control, 360° vision and a wealth of valuable data.

With SanRemo for Crushers you can add three dimensions of certainty to your crushing operation:

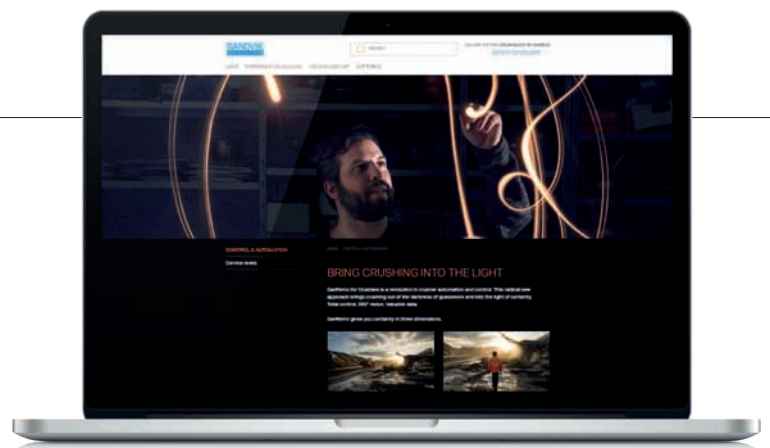
OUTPUT CERTAINTY

UPTIME CERTAINTY

BUSINESS CERTAINTY

Now you can plan much more effectively and maximize return on your equipment investment. SanRemo is the light of certainty for your business.

Read more about SanRemo for Crushers automation and control system at [crushology.sandvik](https://crushology.sandvik.com)



THIS IS HOW IT WORKS

PUT YOURSELF IN THE PICTURE

SanRemo for Crushers is available for both new and existing equipment and gives you web-based remote monitoring and control capability, plus operational data collection.

Just log in from a web browser and supervise your crusher from anywhere. You have a wealth of operational and trend data at hand and it's easy to create insightful reports. This data provides a new level of insight into how your crushing operation is performing, enabling you to refine processes for maximum profitability, while minimizing downtime and running costs.

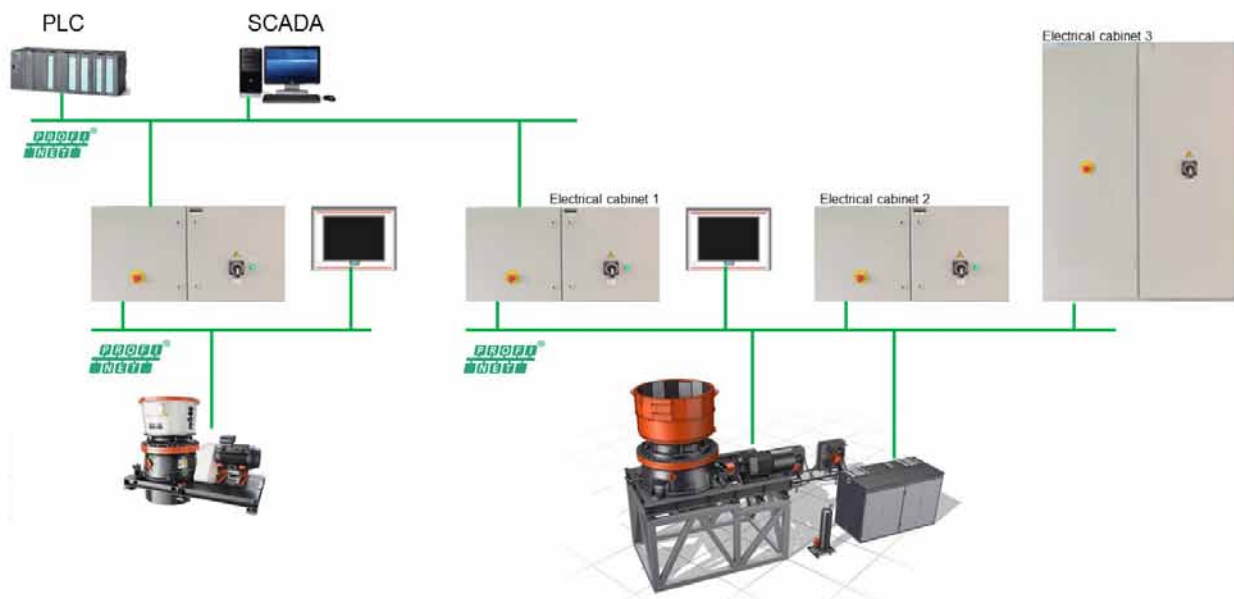
You can see crusher utilization, energy consumption and maintenance data as well as the location of your machines. Based on this comprehensive data, you can immediately detect any changes in efficiency and machine utilization, reliably measure and forecast projects, and make precise maintenance schedules.

SanRemo for Crushers can be integrated with WINI or SCADA systems, enabling you to monitor and control your crushers from the same location. All your data is in one place, and you no longer have to go out to the machines to change settings.

CONTROL AND CONNECTIVITY

SanRemo for Crushers is based on remote machine monitoring. It is easily accessible everywhere on the web: you just go to the service portal, log in, and accurate job site data is available at your fingertips.

In addition, SanRemo for Crushers communicates with every type of PLC system, including Profibus, Profinet, Ethernet/IP, Modbus, Control Net and Device Net.



SanRemo for Crushers connects your entire crushing operation to give you the full picture.

CERTAINTY IN ACTION

Bringing crushing into the light has a big impact on productivity and profitability. Here's how. Make your own calculation at [crushology.sandvik](https://crushology.sandvik.com)



Capacity: 193 tonnes per hour
Shift: 8 hours per day

If the CSS is recalibrated by -2 mm
Profit increases with € 44800 per year

OUTPUT CERTAINTY = REAL FINANCIAL IMPACT

Monitoring production with SanRemo for Crushers showed that utilization was at only 80% on a customer's CH440 crusher.

This enabled the customer to take action and increase utilization to 90%. If the plant is run 260 days per year, 70,460 additional tonnes of material can be produced. Assuming an average price of €7,5 per tonne, additional sales amount to €530,000 per year.

BUSINESS CERTAINTY

Good business decisions are based on knowledge, not guesswork. SanRemo for Crushers gives you all the data you need for maximum certainty.

You will know exactly how well your equipment is being utilized – running hours, empty running, standstills, energy consumption and more. With this information, you can make adjustments to get the most efficient use from your machines, and a higher return on your investment. Cost per tonne becomes much more predictable when you can accurately forecast wear parts needed and energy consumption in relation to production volumes.

And when you know the trends, you can allocate the workforce more effectively and ensure best practices become the norm for all shifts and teams.

UPTIME CERTAINTY

A crusher only makes money when it's running. So the best way to secure your economy is to ensure machines at full capacity. The key is planning. With SanRemo for Crushers, you always know the machine is running as it should, eliminating non-optimal conditions that might cause uneven wear or mechanical damage.

You know the exact status of the mantle and other wear parts, so you can schedule maintenance to fit in with production demands, ensuring minimal disturbance to operations. And you will always be notified when it's time to schedule a routine service. Nothing is left to chance.

This level of predictability also simplifies stockholding. You know what needs doing and when, making it easy to ensure that the right parts are always on hand - with no wasted expense on unneeded stock.

OUTPUT CERTAINTY

The other side of profitability is getting more of your desired fractions while minimizing waste. With SanRemo for Crushers, you can always be sure of having the optimal crusher settings for the production task at hand. The Closed Side Setting (CSS) is continuously monitored, and the system adjusts the CSS to compensate for variations in hardness or moisture of material. This ensures high productivity during operation

Production requirements change, and SanRemo for Crushers makes it easy to adjust. You can create programmes that give the optimal settings for different fractions and materials, and change easily between programmes depending on demand. By combining CSS profiles, you can control the mixture of fractions delivered with high precision.

As well as optimizing output, the right settings also help to protect the crusher.



THE BRIGHTER WAY TO CONTROL YOUR CRUSHER

SanRemo for Crushers puts total control at your fingertips. No doubt, no guesswork. You can check and control every essential parameter at a glance and follow long-term trends. Access is easy via the online portal – from the control room, or from a laptop when you're out around the site.

The SanRemo Service decreases the number of required site visits and minimizes unexpected production stops. Enhanced control of the process translates into clear improvements in the result.

AUTOMATIC SETTING REGULATION

Comprehensive capabilities

SanRemo for Crushers gives you all the functionality you need. The modular system enables supervision and control of everything from setting regulation to lubrication and main drive function. You are in command of the parameters that matter to you.

Three crushing programs

The CSS program maintains the desired CSS at all times. To protect the crusher from overloading, the SanRemo system monitors load conditions and will adjust the CSS if abnormal raw material characteristics are detected. As soon as normal operating conditions are restored, the system will adjust back to the desired CSS for the application in question.

Rapid calibration

SanRemo for Crushers gives you a fast and highly accurate determination of the main shaft position. This helps to ensure a better yield of your desired product.

The Multi-CSS program

The Multi-CSS program alternates between two defined CSS set points during predefined time periods.

Peak pressure

The Peak pressure program is used when maximum reduction is desired.

Lubrication

Total control over lubrication and oil tank monitoring prevents potentially expensive repairs that can be necessitated due to lubrication issues. SanRemo for Crushers monitors tank levels, temperatures, pressure and pumps to optimize functionality.

Main drive control option

Full control over the crusher's drive is available for the Silver and Gold levels.

REPORTING

Make use of the data the system collects in order to gain a new level of business insight. Generate a wide range of reports, including:

Daily/weekly/monthly reports via web or email

Summary reports

Energy reports

A-dimensions and calibration reports

Equipment utilization reports

ILLUMINATE YOUR BUSINESS ONLINE

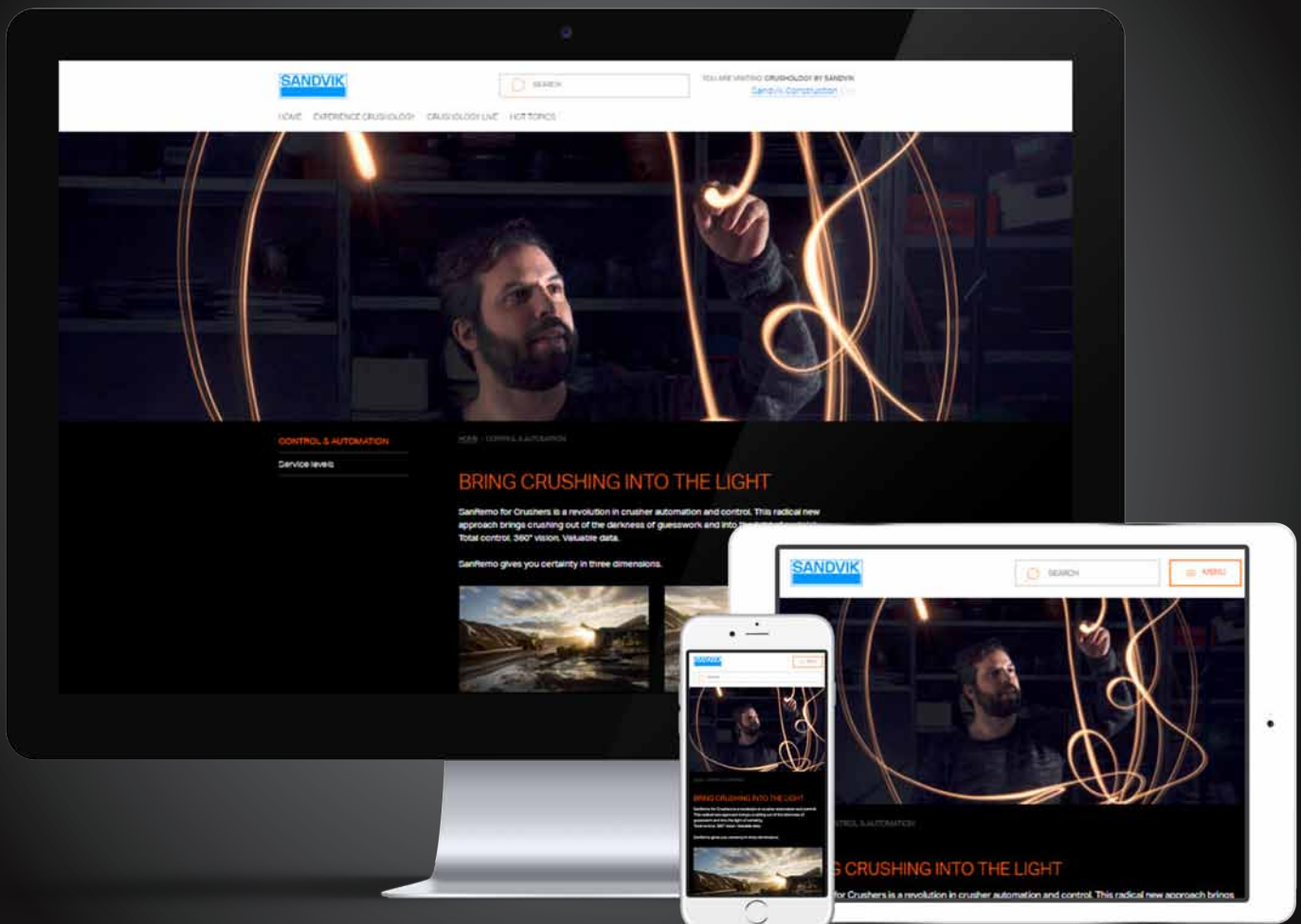
Go to crushology.sandvik to get the full picture of what SanRemo for Crushers can do for your business.

Here you will find further detail about the system and the typical gains that can be achieved. Our CSS calculation tool is a practical way to estimate the additional profit that more optimal settings can enable. Enter some values and discover how much every millimetre counts for your bottom line!

You will also find an informative introduction film on the site. This provides a clear overview of the

new functionality of SanRemo for crushers, new features, and what it can help you achieve.

Whether you're a crusher owner or operator, visit crushology.sandvik and get ready to see crushing in a new light.



CHOOSE YOUR SERVICE LEVEL

SanRemo for Crushers is a modular system, giving you the flexibility to choose exactly the functionality your operation requires. Forget paying for features you don't need. In addition to standard features, a main drive control option is available for the Silver and Gold levels.

Three service levels cover all your needs:

BRONZE

- Setting regulation (as a standard automation system)
- Remote monitoring via SanRemo
- 15" screen
- Basic troubleshooting

SILVER

All bronze features, plus:

- Connection to WINI and SCADA
- History and trend reports
- Extensive troubleshooting
- Operator manual in HMI
- Bypass possibility (non critical components)
- Optional: Main drive control (including softstart)

GOLD

All silver features, plus:

- Lubrication control
- Filter monitoring
- Temperature, pressure and flow control
- Optional: Main drive control (including softstart)



For more information on how to improve your operations,
contact your local Sandvik team or call our global head
office on +46 (0) 8 456 11 00.

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