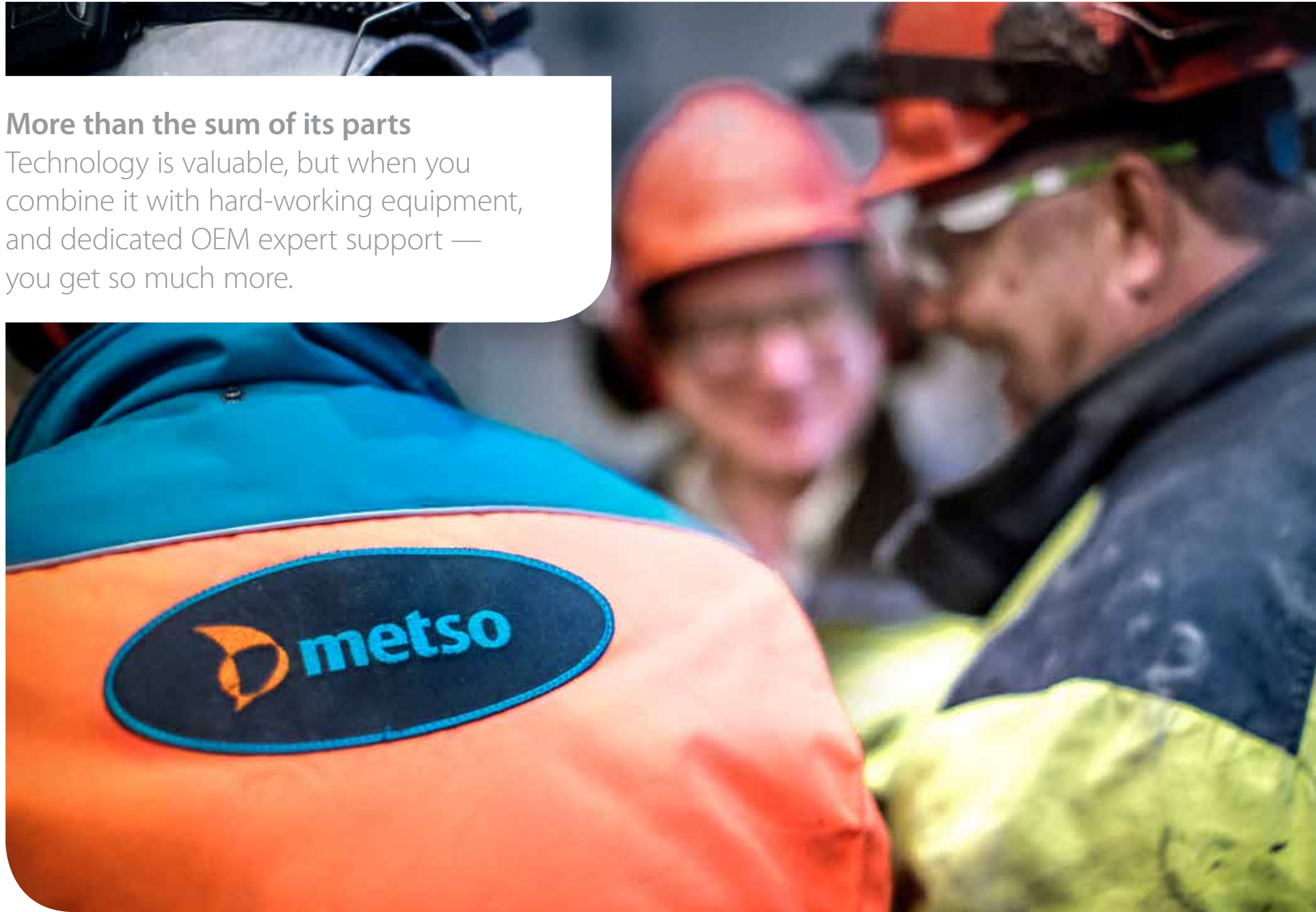


Maximize uptime with

Metso Metrics

Data and expertise to
directly improve your
bottom line



More than the sum of its parts

Technology is valuable, but when you combine it with hard-working equipment, and dedicated OEM expert support — you get so much more.

Responding to your challenges

Shutdowns are the largest driver of lost production.

Of course, downtime is something you cannot completely eliminate, since all equipment requires regular maintenance. However, unplanned downtime and seemingly unpredictable breakages are something that can be addressed with new digital tools. When unplanned downtime can cost up to 5x as much as planned, it's a problem well worth solving.

Demanding operating environments with decreasing ore grades

With ore grades getting lower and lower, you're required to process significantly more ore to get the same final concentrate. In the past, these productivity challenges were addressed through economies of scale. In many cases, this route has been exhausted. Now the focus must shift to the optimization of existing assets and processes.

Increasingly remote locations with greater safety concerns

Due to these changing ore grades, you now have to go further and deeper to reach the minerals you are after. This increases safety concerns while making the site and machines more difficult to access. Remote monitoring and more autonomous processes can aid in combating these serious challenges.

Access to skilled labor/consistent knowledge

Global labor markets are becoming more difficult to access. This is compounded when specific technical and mechanical expertise is required, such as those needed to run and maintain Metso equipment. Digital tools can help increase collaboration by efficiently connecting local teams with global experts.

Metso Metrics: helping leverage your existing assets

Metso Metrics provides the ability to bring expertise and advanced analytics to your current everyday tasks and activities. You know your site best and we know your equipment best. Using digital technology to bridge the gap, you will be able to operate your machines more efficiently, control them more effectively, and reduce your operating costs through preventive maintenance and predictive analysis.

Metso Metrics is built upon:

- Decades of Metso OEM expertise
- Deep customer collaboration
- State-of-the-art technology

This platform is now available for cone crushers, primary gyratories and vibrating screens. More comminution equipment types will be added in the near future.

Introducing Metso Metrics

Connecting innovation and expertise to each machine, this plug-and-play platform helps ensure that your comminution equipment is performing at optimal efficiency.



Metso Metrics provides four levels of insight on your equipment and operations:



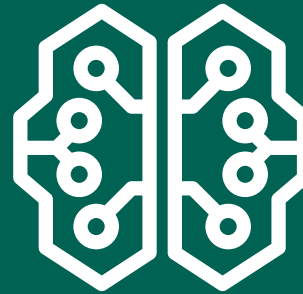
Analytics on your machine and processes

With timely data, you can set daily, weekly, and monthly KPIs. You are able to easily analyze various aspects of the machine — from vibration to efficiency. This is all aimed at helping you make the right decision at the right time.



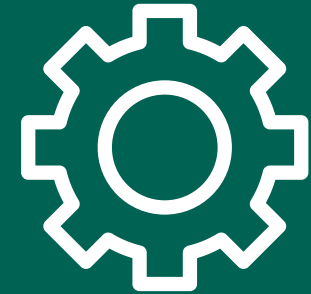
Condition monitoring to increase visibility

Keep an eye on the health of your equipment at all times. Our experts have determined thresholds for every piece of data, as well as how each part should optimally interact with one another.



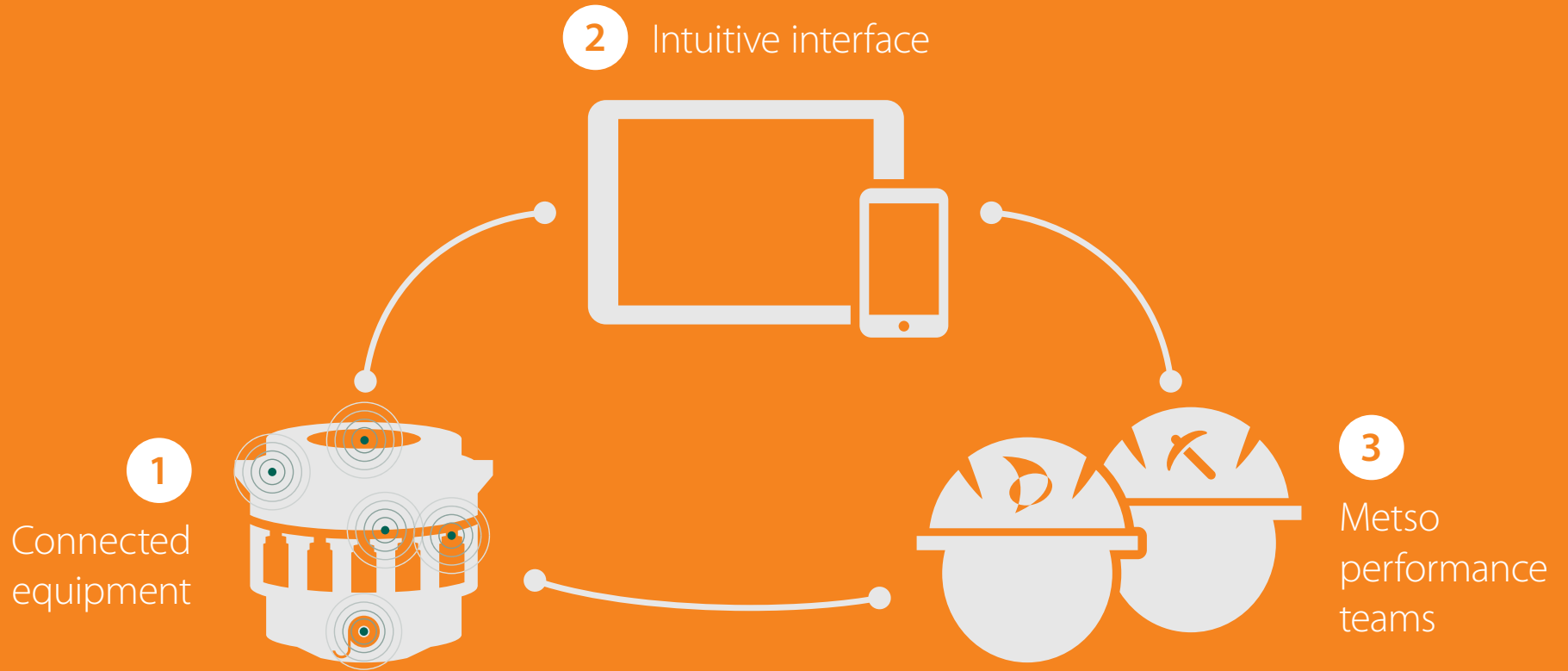
Predictive maintenance through AI

Machine learning algorithms and artificial intelligence are used to detect and predict machine failures. This aids in optimizing processes, and ensuring that machine uptime and availability are maximized.



Process engineering to maximize overall efficiency

Preventing unplanned downtime is key, as is maximizing usage when equipment is up-and-running. Metso's continuous OEM support helps you drive down to the real root of issues.



How it works:

Combining three key elements for data-driven decision making

Metso Metrics pulls data directly from the equipment in your plant and creates a digital twin in the cloud. All machine information is logically organized for you so that actions can be taken right away. On top of that, you are always connected to Metso experts, who work hand-in-hand with your team to determine the best course of action for each issue.

Connected equipment

Over 90 sensors on a single asset, tracking everything

Metso Metrics collects data through the use of advanced sensors — some that are already built-in and some that have been custom-designed for each machine. This sensor data can be regulatory control information such as flows, levels, pressures, and temperatures coming directly from the instrumentation, as well as health and performance gauges. By monitoring all parts of your equipment, proactive and preventive actions can be taken more easily.

Wear life

Efficiency

Load characteristics

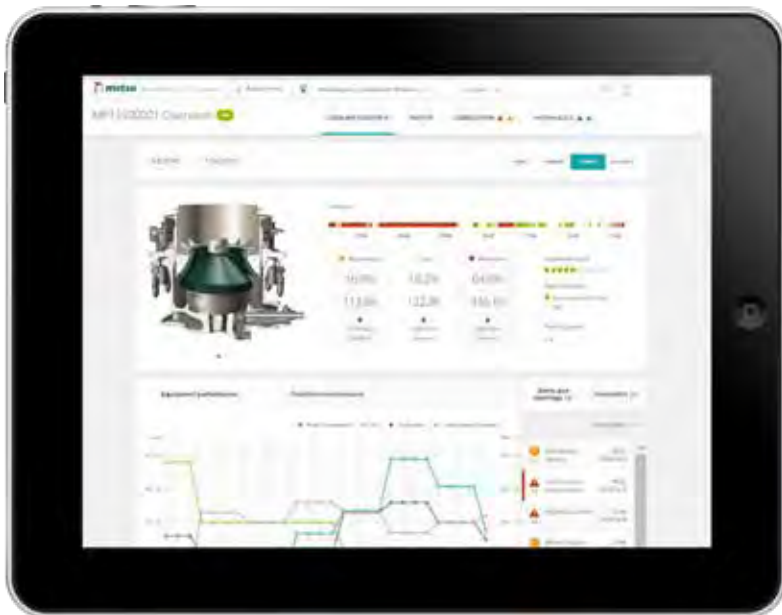
Leak detection

Utilization

Oil quality



Intuitive interface accessible anywhere



Visibility
Insight
Action

All in one place.

Created in partnership with Rockwell Automation and powered by Microsoft Azure, Metso Metrics provides the highest level of cybersecurity and multiple connectivity options to suit your needs. Accessible through any internet-connected device, you know exactly what is happening with your equipment 24/7.



Metso performance teams

What truly brings this all together are our new Metso performance teams, combining global and local expertise. They speak your language, know your operations — and of course, they understand your equipment inside and out.

Leveraging OEM expertise

To get the most out of your machine, you need to understand how it works, and carry out preventive maintenance. If a problem occurs, it is critical to determine why and to fix the root cause, not just the symptom. Non-OEM suppliers are not experts in the design of Metso equipment and may not be able to determine why a failure has occurred. Therefore, they may continue to provide only temporarily fixes for the problem.

Not only experts, but partners

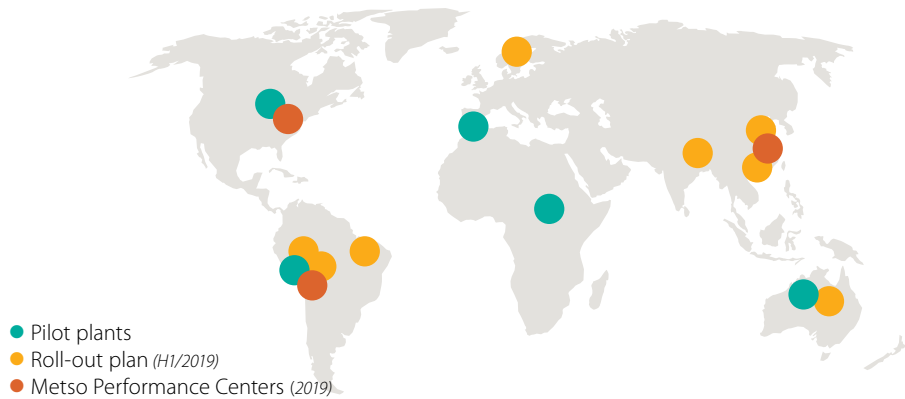
With remote access to your equipment data, it will be as if an expert is there with you — even though they are actually hundreds of miles away. Their job is to work hand-in-hand with you, proactively suggesting ways to gain efficiencies throughout your plant. Trained to spot trends in alarms and aid in interpreting the data for your specific operations, they can provide customized solutions so you can see benefits right from the start.

“Not understanding the real issue early on can lead to much larger ones down the road.”



Proven and co-developed

Everything we do is based on deep industry knowledge and expertise that makes the big difference to our customers. Decades of close customer collaboration and adapting to our customers' changing needs, has transformed and prepared us for our digital journey today.



**Rockwell
Automation**

 **Microsoft Azure**

Pilot program – collaborating with our customers

For over three years, we have developed this platform with the help of a set of forward-thinking global mining customers. With their insight, unique and varied use-cases, as well as demanding expectations, we have built value into each piece of Metso Metrics. We have a philosophy of continuous improvement. As we continue to collaborate with more customers, the more robust and efficient our solutions will become.

Innovation development – partnering with the best

Knowing how much we can bring to our customers as an OEM expert, we knew it was key for us to work with an expert in automation and control technology for this digital project. Enabled by an industrial IoT platform from Rockwell Automation and global coverage with Microsoft Azure's data centers, Metso can deliver analyzed equipment data to the hands of customers around the world, quickly and reliably.

The results you can expect

With Metso Metrics, you can expect results. This new platform provides increased visibility on your equipment and processes — to both your teams and ours. This will allow for better collaboration, as well as more reliable and proactive service.



Increased asset uptime and availability

By continuously tracking the health of your machine and reacting without delay.



Greater energy efficiency and sustainability

By more closely monitoring inputs and avoiding wastefulness.



Less variability in end product quality

By optimizing circuit and operating parameters proactively.



Lower overall maintenance cost

By increasing planned fixes, rather than needing unplanned overhauls.



Learn more about Metso Metrics:
metso.com/metrics

Log into your user account:
metrics.metso.com