

# Always Connected

Remote monitoring, maintenance, and optimization



# Safe Harbor

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# Today's Speakers



**Soledad Barbera**

**Head of Metso Performance Centers**



**Mikko Koivunen**

**Global Sales Director –  
Metrics & Performance Solutions**

Webinar moderated by Lauren Markofsky, Global Services Marketing Manager

# Mining continues to be more remote and complex than ever.

Continuous  
hunt for  
productivity

Low asset  
OEE

Next  
generation  
workforce

Safety &  
Sustainability

This is no excuse for a lack of responsiveness.  
When things go wrong, the ramifications can add up quickly.

# Value of digitalization in mining and metals

The digitalization of mining and metals could unlock more than \$400 billion of value

	Adoption rate – mining, 2025 (%)	Potential Business Impact (\$ billion)	Potential Societal Impact (\$ billion)	Total Value at Stake (\$ billion)	Emissions Reduction (million tonnes CO <sub>2</sub> )	Net Impact on Jobs (000s)
Smart Sensors	20%	34	8	42	161	(40)
Autonomous Operations & Robotics	25%	56	19	75	396	(60)
3D Printing	25%	--	3	3	35	--
Connected Worker	50%	85	--	85	--	(201)
Remote Operations Centre	30%	77	7	84	16	(12)
Asset Cybersecurity	75%	21	--	21	--	--
Integrated Platforms	15%	37	69	106	--	(5)
Advanced Analytics	25%	11	--	11	--	(13)
<b>Total</b>		<b>\$321B</b>	<b>\$106B</b>	<b>\$427B</b>	<b>608M tonnes</b>	<b>(330k)</b>

# Metso has been investing digital technology for decades, but recently we have doubled down on it

## Incremental improvements for maximum customer value

### Optimize processes

Step 1



- Comprehensive solutions for process optimization, reliability engineering and maintenance management

### Maximize availability

Step 2



- Introduction of Metso Metrics – our predictive maintenance and condition monitoring platform

### Expanded capabilities

Step 3



- Acquisition of HighService Service expands our range of services for Pacific Rim and beyond

### Productivity through collaboration

Step 4



- Introduction of Metso Performance Centers – our remote monitoring and digital service hubs

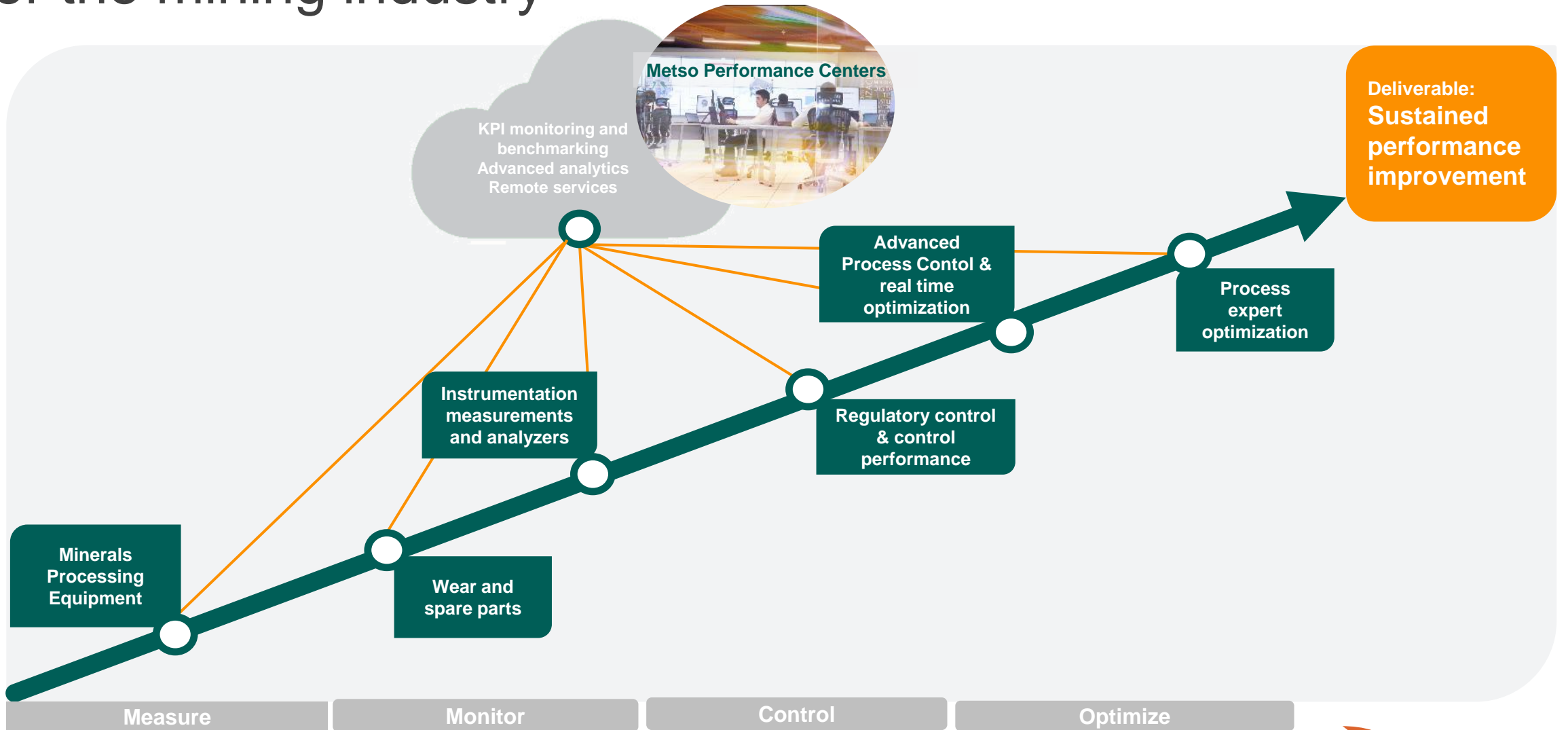
### Expanding footprint

What's next

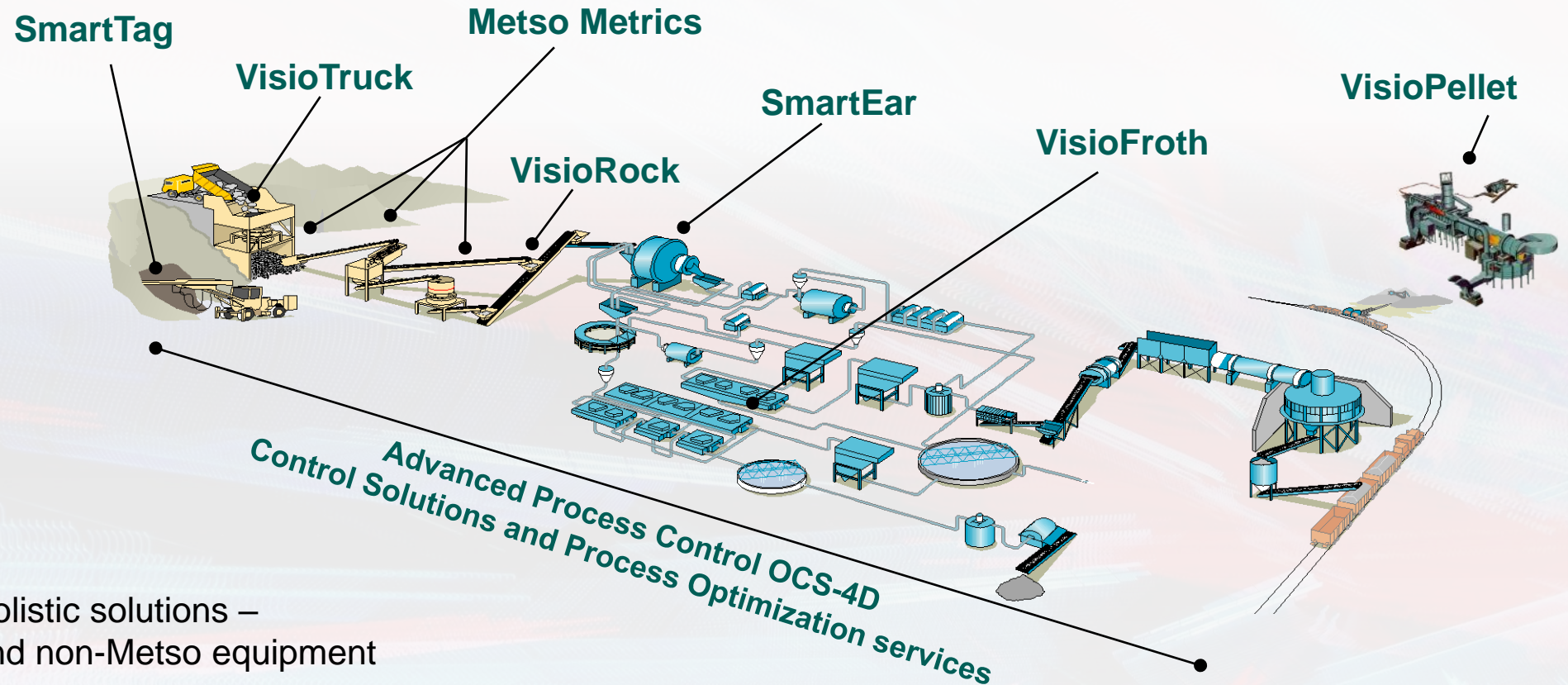


- Moving towards full plant optimization capabilities

# Metso's digital solution development for the mining industry



# Comprehensive solutions, spanning across the flow sheet



- OEM agnostic, holistic solutions – for both Metso and non-Metso equipment
- Remote monitoring and optimization capabilities



# Metso Performance Center

## Hub for Metso's remote digital services

- ✓ State-of-the-art facilities custom-built for collaboration
- ✓ Applying the highest level of cybersecurity
- ✓ Offering holistic services for both Metso and non-Metso equipment
- ✓ An enabler for Metso products and services



# Ecosystem of Collaboration



# Digitalization can offer great results.



**Increased production**  
Improved visibility and  
data-driven decision making



**Reduced downtime**  
Faster problem solving  
and early detection



**Reduce costs**  
Unplanned maintenance  
is much more expensive



**Increased safety**  
Planned vs unplanned  
Remote vs onsite



**Improved sustainability**  
Reduced travel  
Optimized assets

## A few real-life results:

From our gearless mill drive monitoring division

Reduced attention time for failure events (↓ 50%)

Minimized assistance required in the field in the event of a failure (↓ 80%)

Reduced unexpected stops - Online Diagnosis (↓ 30%)

Digitalization can offer great results.  
But they deteriorate over time  
without support and optimization.

For improved  
process  
efficiency

- Process monitoring & optimization
- Wear parts design optimization

For  
increased  
reliability

- Metso Metrics monitoring
- Remote maintenance support

For  
enhanced  
stability

- Advanced instrumentation monitoring & maintenance
- Control performance services

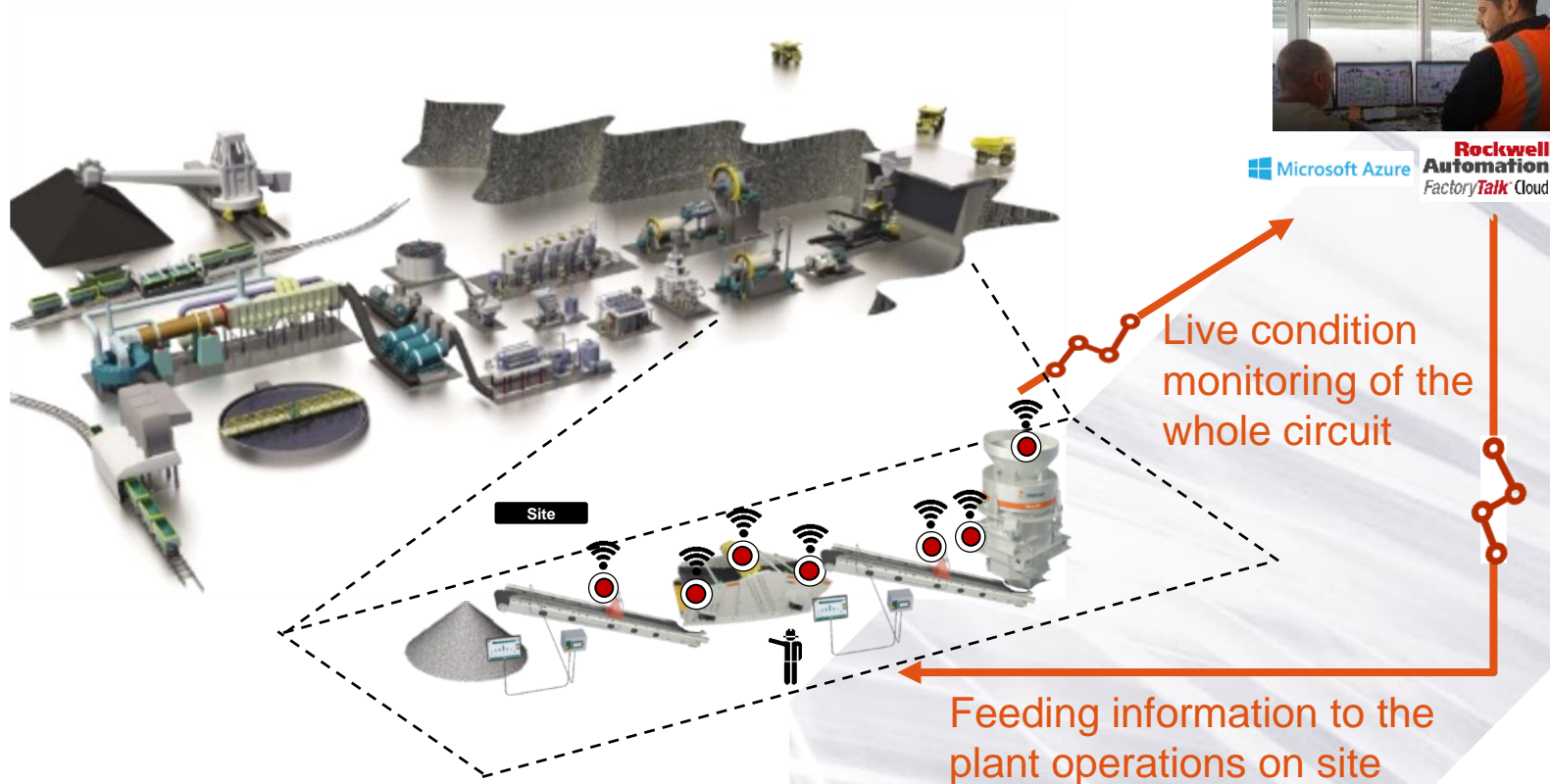
Helping you achieve and sustain performance improvements

# METSO METRICS MONITORING

Combining equipment condition monitoring with predictive analytics to help you get ahead of problems before they start.

# Metso Metrics remote service

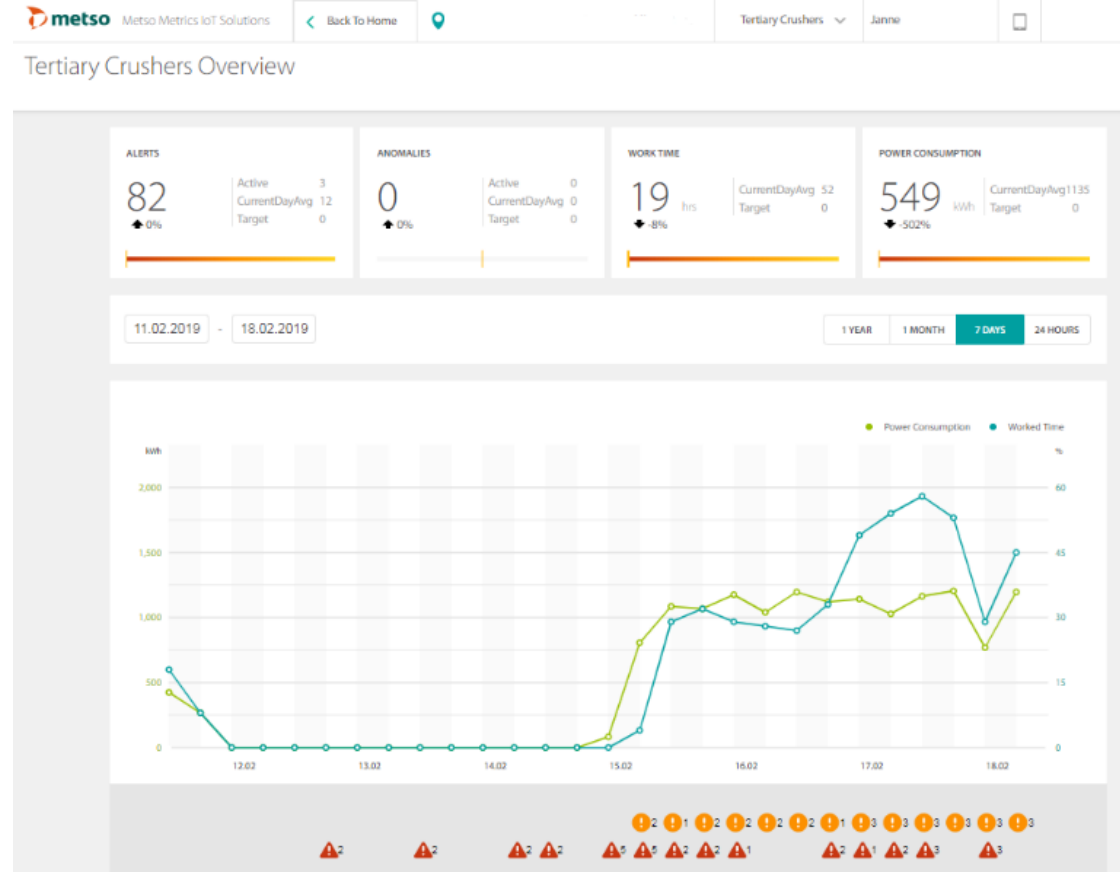
for a reliable and high-performing comminution circuit



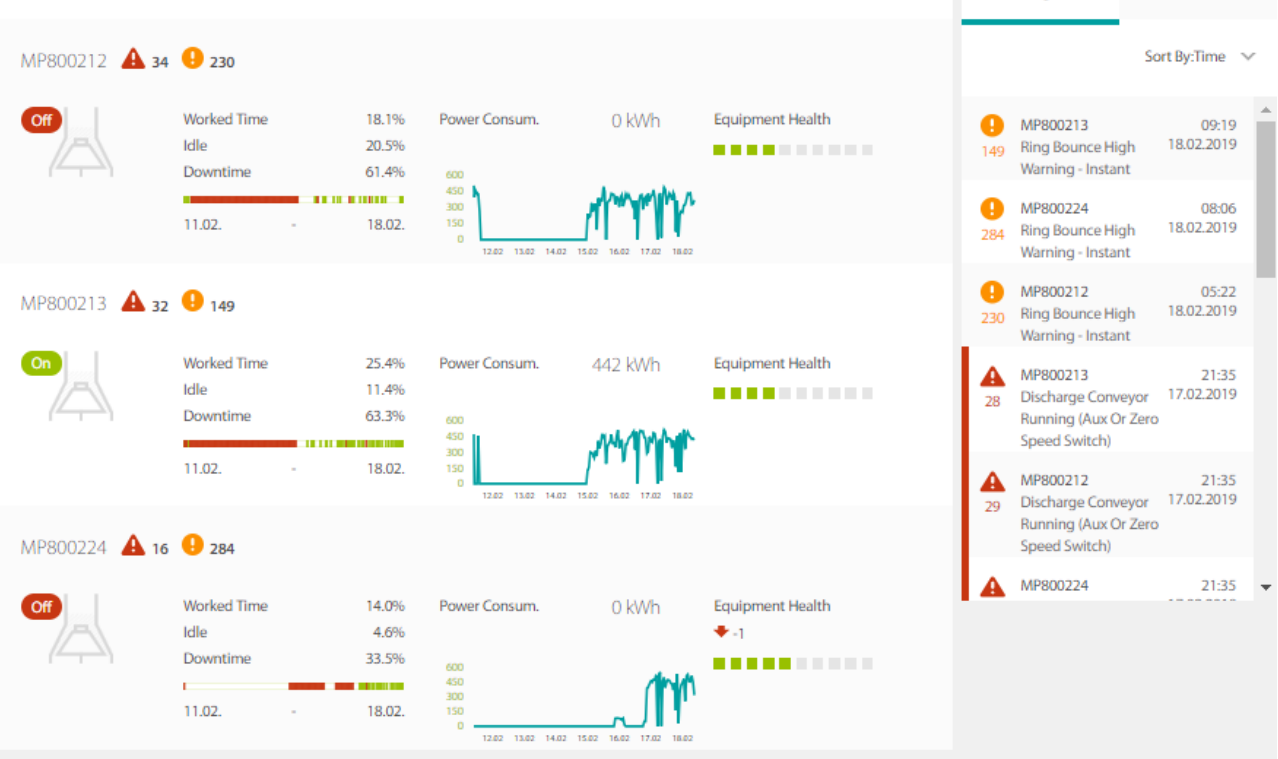
Continuous automated monitoring of key performance measures with remote access to related process, and process equipment information

# Metso Metrics remote service

Access to performance and equipment health information online



## Tertiary Crushers Equipment - 3 Items



# A.I for continuous monitoring and predictive maintenance



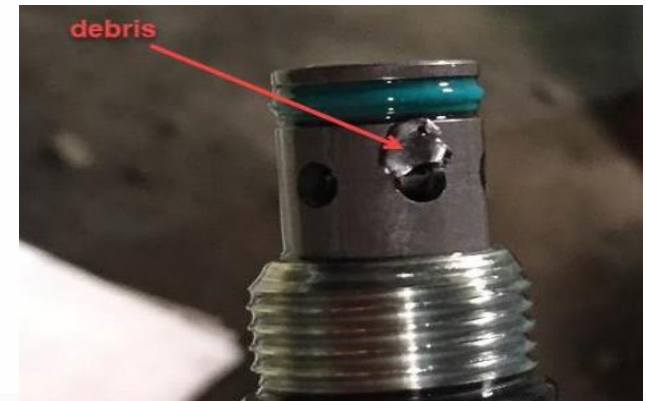
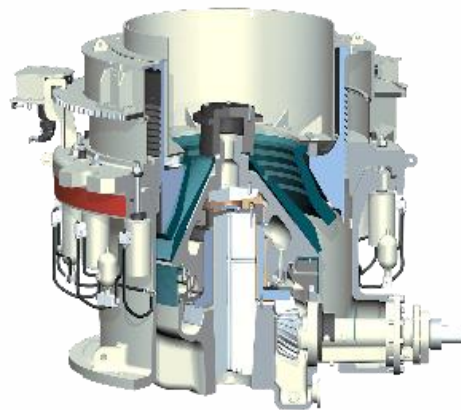
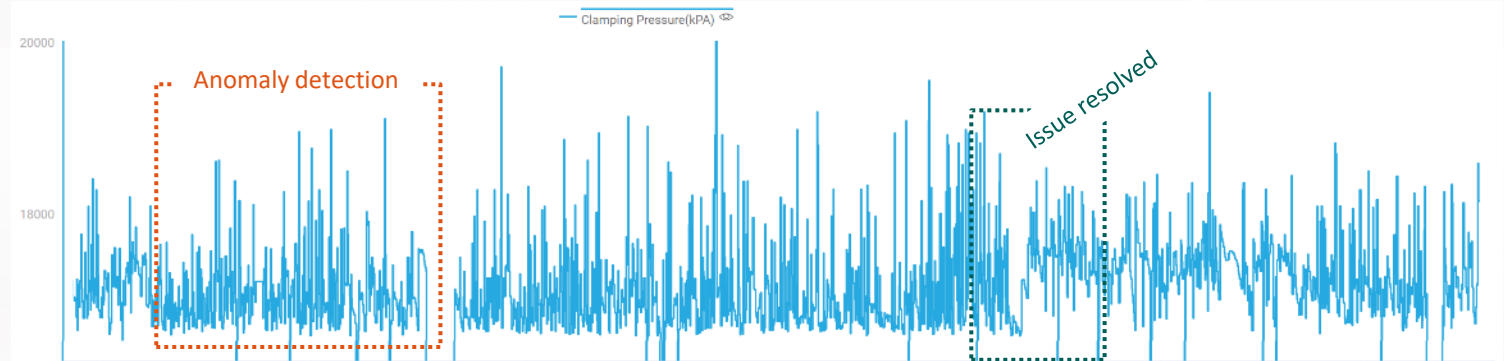
- 24/7 real time data analytics
- Multiple A.I agents looking at key areas
  - Lubrication, hydraulics, vibration, bushing etc.
- Early detection of anomalies to prevent failures
- Advanced analysis tools for Metso Performance Center remote support





# Predictive maintenance in action

Significant downtime avoided at an iron ore mine in USA



# A solid base, ready to build on

## Highlights of Metso digital footprint

**1000+**

Active and connected  
crushers

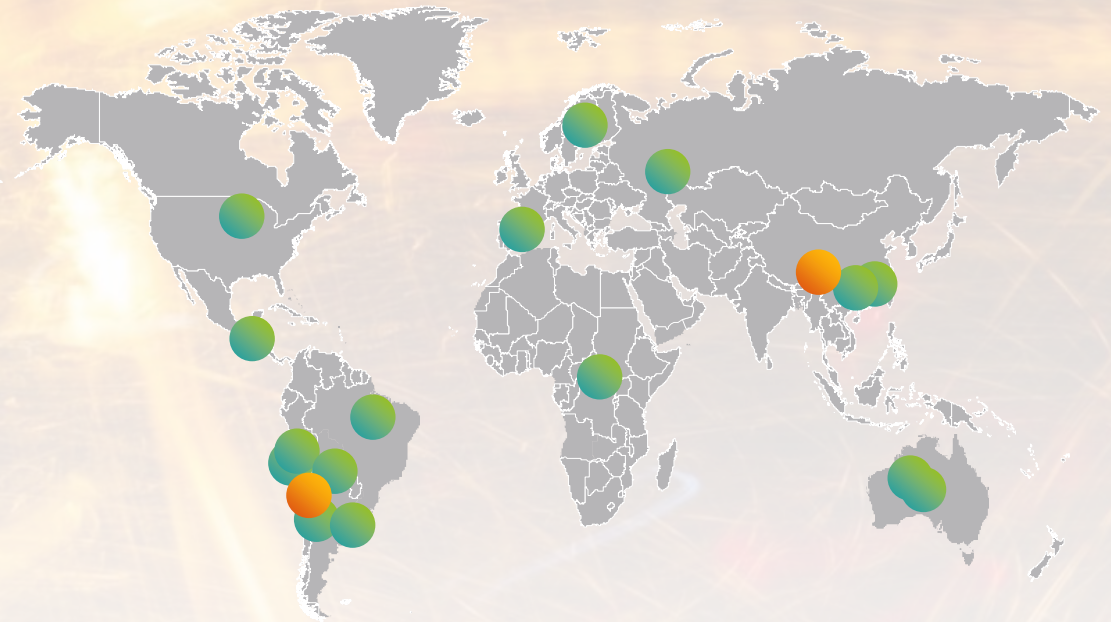
**600+**

Advanced Process Control  
and automation projects

**315+**

Installations of specialized  
process optimization  
instrumentation

## Sites connected to our two new Metso Performance Centers



# Avoiding the common pitfalls of digitalization

Six key factors that you should keep top-of-mind

**Define ownership and set expectations**

**Focus on end results, not technology**

**Have clear, realistic KPIs**

**Project handover must not be overlooked**

**Have a change management plan**

**Put a support plan in place for sustaining results**

# Why partner with Metso

**Domain  
expertise**

**Proven  
solutions**

**Global network  
and  
benchmarking**

**Close the loop**

**With a focus on safety throughout**



Questions?

# Thank you for joining!

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- Webinar recording and material will be emailed
- Any unanswered questions from the chat will be replied to via email
- Still have a question? Please email **mining.webinars@metso.com** and we will get back to you!
- For more info about Metso's remote services, visit our website: [metso.com/performance](https://metso.com/performance)

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