

# HOW TO BOOST EFFICIENCY FOR HIGHEST PROFITS?

Unlock maximum performance  
of your slurry monitoring



**BERTHOLD**

# WHY MINING LEADERS CHOOSE BERTHOLD SYSTEMS TO IMPROVE SLURRY MONITORING!

Berthold's radiometric density measurement system is the market leader in terms of maximizing savings and production output!

## ✓ Increased Efficiency

Precise density control in flotation and separation processes can increase throughput by 3–10%, leading to improved mineral recovery of 1–5%, equivalent to an annual gain of **\$0.5 to \$5 million**.

## ✓ Optimized Energy Consumption

Enhanced process control can reduce energy consumption by up to 15%, translating to potential cost savings of approximately **\$500,000** per year.

## ✓ Reduced Downtime Costs

Unplanned downtime due to sensor failures in mining operations can cost up to **\$500,000** per hour. Berthold's radiometric systems, known for their exceptional reliability, virtually eliminate these costs by ensuring continuous, uninterrupted operation.

## ✓ No Recalibration After Pipes Run Empty

In many systems, events like pipe emptying trigger failures or require recalibration. Berthold detectors are engineered to handle such scenarios without any performance degradation or need for recalibration.

## ✓ Reduced Maintenance Costs

No moving parts mean minimal wear and tear, lead to savings up to **\$50,000** per year per unit compared to mechanical or contact-based systems.

## ✓ Reliable in Harsh Environments

Designed for mining's most extreme conditions, Berthold's systems perform reliably in abrasive, corrosive, and high-temperature environments, where other systems fail.



**Payback Period**  
**6–18 months**



**Long-term ROI**  
**300–1000%**  
over five years

### **Matthias Kraft**

*Expert for measurement solutions  
in the mining industry*

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## How Berthold's Density System Works

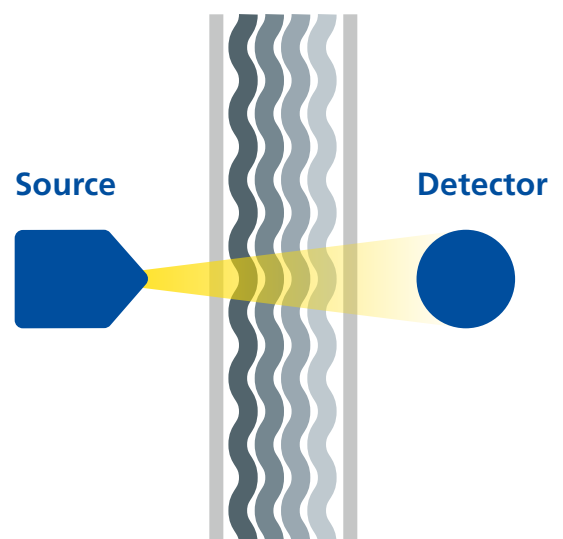
The radiometric measurement system consists of a source that emits gamma radiation and a detector, which can detect that radiation depending on the density of the product. Both, source and detector are mounted outside the pipe – a completely contactless measurement system, suitable for the harshest environments.

## Customer Benefits

- Independent of the physical properties of the material being measured, thus perfectly suitable for acids, slurries and suspensions
- Easy installation outside the pipework, using clamp-on mounting – no modification required
- Minimal operating costs
- Detectors can handle easily highest count rates, especially when pipes run empty

## Features

- Online measurement: real-time process information
- Excellent measurement stability: no need for frequent recalibration
- Ruggedness: no moving parts
- Highest reliability: high accuracy and reproducibility over years
- Outstanding sensitivity: excellent results even with remarkably low source activities



*Typical arrangement of a density measurement system on a pipeline*





## *Ready to elevate your mining applications?*

### ■ **Slurry Transport & Hydrotransport Lines Monitoring**

Ensure efficient material flow and prevent costly blockages through real-time monitoring

### ■ **Pipeline Blockage Detection**

Prevent costly pipeline failures through early detection to avoid unplanned downtime and expensive repairs.

### ■ **Storage & Pipeline Management**

Ensure precise level and density measurement for optimal operational control

### ■ **Tailings & Thickener Monitoring**

Maximize water recovery and minimize environmental impact with density and solids content measurement from the experts.

### ■ **Flotation & Separation Processes**

Enhance process stability and prevent system failures through early issue detection.

## **Maximize Your Return on Investment**

### ◆ **Rapid Payback**

Realize full ROI within just 6 to 18 months, thanks to significant cost reductions, enhanced operational efficiency, and minimized unplanned downtime.

### ◆ **Outstanding Long-Term Gains**

Benefit from an impressive 300–1000% return over five years – fueled by extended equipment life, fewer failures, and optimized production output.



# WE ARE THE EXPERTS IN MEASUREMENT TECHNOLOGY

**Berthold Technologies stands for excellent know-how, high quality and reliability. The customer is always the focus of our solution.**

No matter where you are, our highly qualified experts and specialists are ready and waiting and will be with you in no time at all with the ideal solution for even the most difficult measurement task.

As technology leader in radiometric measurements, Berthold provides a wide range of analysers and measurement solutions that have been specifically designed for the mining and mineral processing industry. Our product range includes non-contacting radiometric measurement systems for level, bulk flow, density and moisture determination.

## Outstanding Long-term Stability

A reliable measurement is vital for the efficient operation of a process and is therefore our highest priority. Due to various patented technologies, Berthold's detectors operate consistently, irrespective of even large variations in ambient temperature or degradation caused by aging. The result: many years of operation without the need for recalibration or maintenance and a measurement that you can rely on!

## Retrofit Program

Berthold detectors can be easily retrofitted on existing measurements. With hundreds of systems installed throughout the world, we have the experience and the technical know-how to even solve your measurement tasks no matter if a new system or a retrofitting solution is required.

## Berthold Expert Service

As a world leader in radiation measurement technology, Berthold Technologies offers global sales and expert on-site service wherever and whenever you need it.

Our worldwide network ensures fast, competent support, delivered by highly skilled engineers and service technicians to keep your operations running smoothly.



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