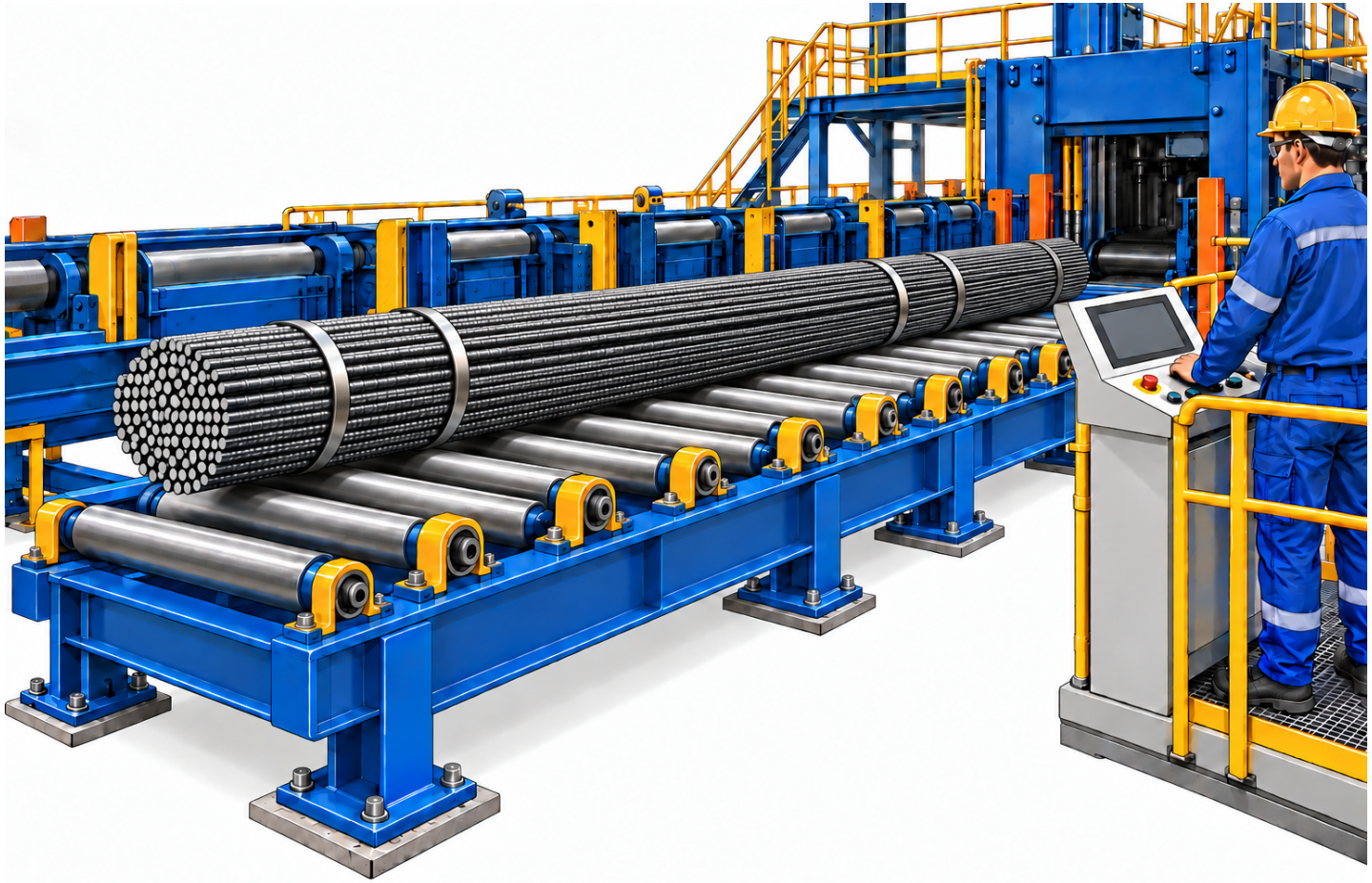
Online Linear Mass (OLM)

A Smart Bar Tracking (SBT) module

Each bundle shows how your process is running.

Deterministic bar count + net mass + total bar length.

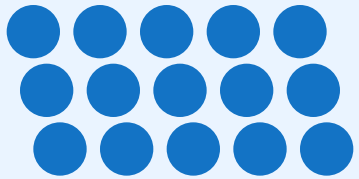
A new linear mass reading every time a bundle is weighed.



The calculation starts with the bar count

The bar count is the basis for calculating the average linear mass of a bundle.

01 Bar count



SBT determines the exact number of bars in the bundle. Uncertainty in the count would carry through to the linear mass calculation.

02 Net mass



The scale provides the mass of the bars after the applicable tare weights are deducted.

03 Total length



Total length = $L_1 + L_2 + \ldots + L_n$

Add the actual lengths of all the bars in the bundle.

Average linear mass = net mass ÷ total bar length

If all bars have the same length, total length = N × L.
If the bundle contains short bars or bars of different lengths, use each bar’s actual length.

Nominal length 12 m. Actual cut length 12.04 m.

The calculation uses the actual length cut at the shear.

Specified length range for this example* 12.00–12.10 m



Total actual length

150 × 12.04 m

1,806 m of steel

Mass ÷ length

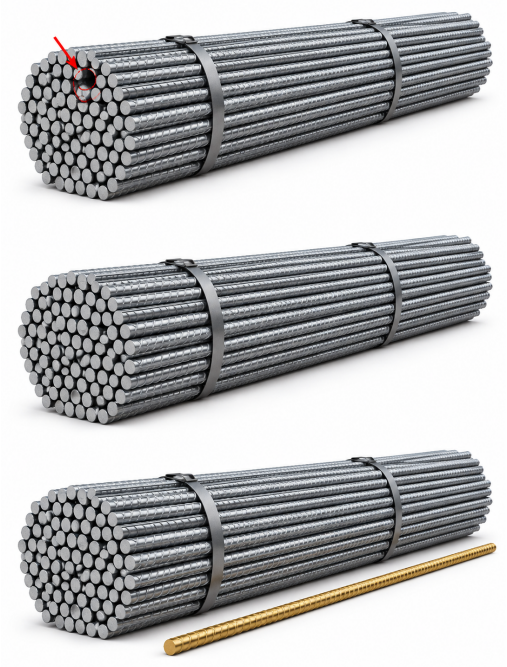
1,000 kg ÷ 1,806 m

0.55371 kg/m

* Check the applicable standard and product specification for the permitted range.

A one-bar counting error changes the result

An error in the reported count changes the total length in the denominator.



Bar count used	Calculated linear mass	Deviation
149 bars One bar too few	0.55743 kg/m	+0.671%
150 bars Deterministic count	0.55371 kg/m	Reference
151 bars One bar too many	0.55004 kg/m	-0.662%

An exact bar count eliminates this source of error as long as the bundle remains intact until it is weighed.

Process updates between samples

Each time a bundle is weighed, the mill gets an updated linear mass reading.



Collect and carry | Cut and measure | Weigh and record

Manual sampling requires training and care. Errors in cutting, measuring or recording can affect the result.

In the mill practice described here, operators take one sample roughly every 30 metric tons. Each test takes about 15 minutes. Both figures vary by mill.

Sample testing continues wherever quality requirements call for it.

MONITORING WITH SBT

1. Determine the bar count
2. Match the scale reading to the bundle
3. Calculate average linear mass

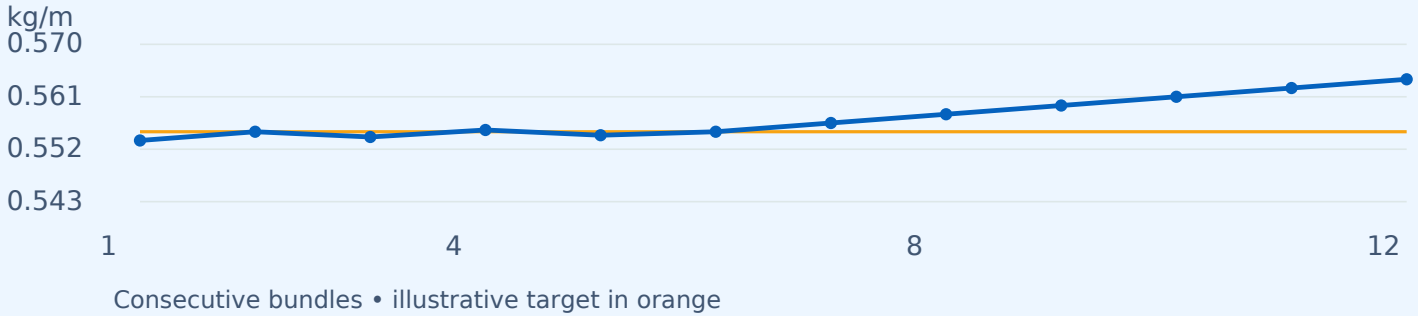
SBT generates the reading automatically, independent of operator input or reporting.

Greater accuracy, more representative data and better data integrity, with no physical effort for the operator.

A change in the trend helps guide inspection

Different patterns point to different possible causes and help operators decide what to check.

Average linear mass per bundle



Consecutive bundles • illustrative target in orange

Observe

Look for trends, shifts in level and unusual fluctuations.

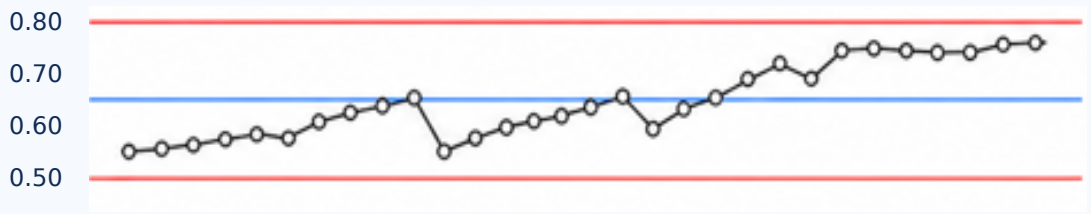
Investigate

Check mill settings, roll grooves, guides and rolling train condition. Follow operating procedures when making adjustments.

Operational benefits

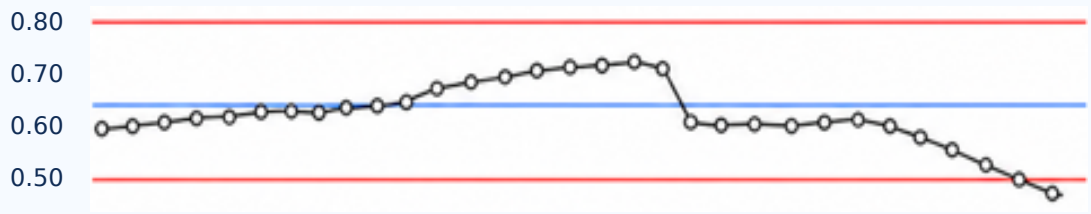
Reading the trend helps operators decide when to act

Fine process control



Helps operators plan changeovers safely.

Predicting scrap



Helps operators act before material is lost.

From linear mass to process control

Each bundle weight gives the mill information it can act on.

01

Operations

Track trends to guide adjustments and inspections.

02

Supervisors

Check process stability and track the effects of adjustments.

03

Management

Compare periods, rolling campaigns and mills using the same criteria.

04

Continuous improvement

Investigate deviations and estimate the impact of running above the linear mass target.

Online Linear Mass tracks your process bundle by bundle.

Contact DeimosCarp to learn more about SBT.

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