Water and beverages / WB-02

Line speed after marking

Measure how much code application and verification are reducing line speed, and recover it.

The code was added to the line. Speed was never measured.

Producers report that line speed and efficiency fell after marking was introduced. This loss usually does not appear separately in the shift report: the stoppage is recorded, but its cause is not.

Conceptual architecture. No operating results are shown.

01 Line	Printer speed · Camera reading speed · Rejecting faulty units
02 Recording	Stoppage time · Cause code · Operator panel
03 Analysis	Availability · Performance · Quality (OEE)
04 Service	Setup manual · Spare parts list · Local engineer

At a glance

20%+ — Drop in line efficiency and speed after marking was introduced, according to one producer. [1]

10%+ — Losses due to stoppages, according to another producer. [1]

60,000 — High-speed line output cited by a representative of a large producer, bottles/hour. [2]

November 2026

01 Evidence and context

Who it is for

Production director	Gap between nominal and actual speed; causes of stoppages.
Chief mechanic	Printer and camera settings; spare parts.
Shift supervisor	Recording stoppages and their causes.
Plant owner	Lost production in monetary terms.

Facts and global practice

Producer of carbonated soft drinks and water

After marking was introduced, line efficiency and speed fell "in practice by more than 20%"; costs and unit cost rose. [1]

Juice and beverage producer, over 30 million litres per year

Losses due to stoppages are "at least 10%". [1]

Representative of a large producer

A high-speed line produces 60,000 bottles per hour; a minor code-reading fault or an internet outage stops the line immediately. [2]

Representative of a large producer

If a bottle is not counted or ends up in the wrong bundle, it has to be searched for along the entire line. [2]

Plant manager at a large producer

The country lacks specialists to set up the equipment. [2]

UzBev association

In trials, no supplier was able to offer a complete technical solution that does not reduce high-speed line output. [1]

The percentages above relate to two different companies and must not be added together. They are not industry averages. Losses must be measured separately at each plant.

02 Where the losses occur

Printer and camera do not match line speed

If code application or reading is slower than the line, the entire line runs at the speed of that stage.

Stoppage cause is not recorded

The operator restarts the line, but whether the stoppage was caused by marking or by something else is not recorded.

Setup depends on an external specialist

During format changes or faults, the line waits for a specialist and does not run in the meantime.

Not compared with nominal speed

The shift report shows units produced, but not how much was lost relative to line capacity.

How the loss is calculated

Speed loss	(nominal – actual) units/hour × operating hours × margin per unit
Stoppage	stoppage minutes × line rate (units/minute) × margin per unit
Rejects	rejected units × unit cost
Waiting	hours spent waiting for a specialist × line value per hour

Illustrative calculations; establish the baseline, units and rates during the site assessment. Avoid counting the same loss twice.

03 Solution architecture

Measuring and recovering speed

Losses are first measured stage by stage, then the largest constraint is removed. Existing equipment is not replaced; monitoring is added on top of it.

01 Line

Printer speed · Camera reading speed · Rejecting faulty units

02 Recording

Stoppage time · Cause code · Operator panel

03 Analysis

Availability · Performance · Quality (OEE)

04 Service

Setup manual · Spare parts list · Local engineer

Modules

Camera inspection on the line	Reading every code at line speed and rejecting faulty units	Engineering capability
Recording stoppage causes	Operator panel, cause codes, shift report	Engineering capability
Line efficiency (OEE)	Calculation by availability, performance and quality	Engineering capability
Asl belgisi integration	Tracking of applied and rejected codes	Commercially available
Setup and service	Inspection and re-adjustment of existing equipment	Commercially available

Each module has a readiness status. Third-party results are not a forecast for your site.

04 Implementation and measurement

01 Speed audit

The speed and stoppages of each stage are measured over several shifts.

Output: the constraining stage is identified.

02 Setting up recording

An operator panel and cause codes are introduced.

Output: stoppages are visible with their causes.

03 Removing the constraint

Measures related to setup, camera or printer.

Output: speed is measured again.

04 Scaling up

Rolled out to other lines and formats.

Output: monthly metrics.

What is measured

Actual / nominal speed	Units produced / line capacity, per shift	Line counter
Stoppages caused by marking	Minutes, by cause code	Operator panel
Rejected units	Rejected / total, per shift	Camera
Recovery time	Average time from stoppage to restart	Operator panel
OEE	Availability × performance × quality	OEE module

What is needed to start

- Person responsible for the line
- Nominal line speed and list of formats
- Shift schedule
- Access to the line for measurement

05 Readiness checklist and next step

01 Is the nominal speed of each line documented?	Yes / No / Unknown
02 Is actual speed compared with nominal speed at the end of each shift?	Yes / No / Unknown
03 Is stoppage time recorded automatically?	Yes / No / Unknown
04 Is the cause of each stoppage recorded?	Yes / No / Unknown
05 Are stoppages caused by marking shown separately?	Yes / No / Unknown
06 Is the number of units rejected by the camera known?	Yes / No / Unknown
07 Is format changeover time measured?	Yes / No / Unknown
08 Are printer and camera settings documented?	Yes / No / Unknown
09 Can a local engineer arrive within one day in case of a fault?	Yes / No / Unknown
10 Are key spare parts kept in stock?	Yes / No / Unknown

What we do not promise

• Exact timeline and price without an audit

• Government decisions and deadlines

• Changes to line software without the equipment supplier's permission

• Unmeasured results or savings

Line speed audit

We measure the speed and stoppages of the marking stages on your line and identify the largest constraint.

• Speed map by stage

• List of stoppage causes

• Action plan and budget

Scope, price and schedule are agreed after reviewing the site and its data.

06 Sources and scope

[1] Statements by producers and UzBev. gazeta.uz, 15.04.2026.

gazeta.uz

[2] Statements by producers and UzBev. gazeta.uz, 30.03.2026.

gazeta.uz

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