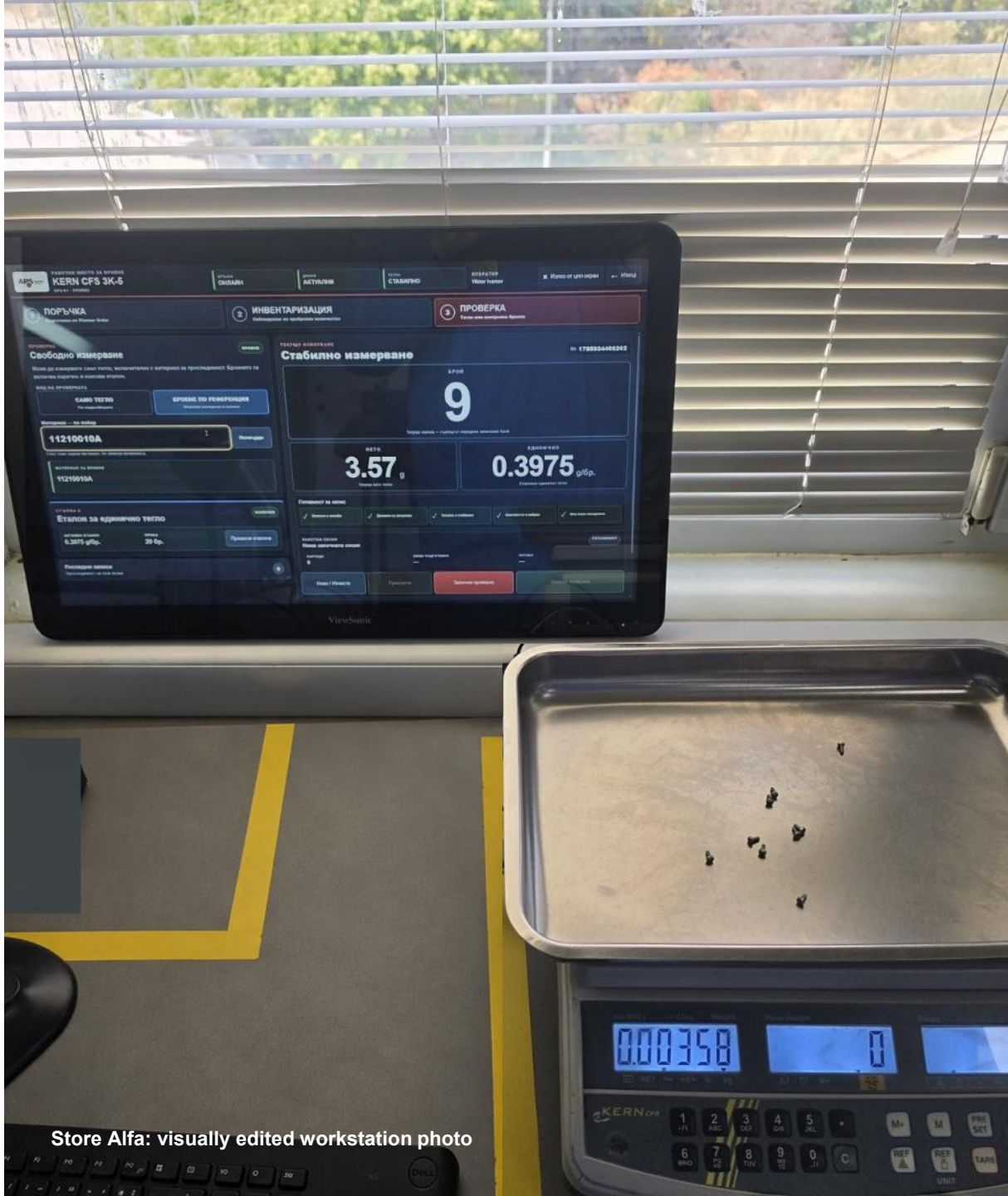
LEAN CHAMPIONS Q3 2026

From repeated work to a managed process

KERN scales: shared data and electronic records
Packing: preparation based on daily demand

Viktor Ivanov
APS Trading



Store Alfa: visually edited workstation photo

APS Engineering the future

Q3 2026

OVERVIEW

Two projects to reduce unnecessary work

01 KERN SCALES

Reuse of counting references and electronic records

PROBLEM AND SOLUTION

Repeated setup for a known component.

Solution: shared data and barcode selection.

02 PACKING

Preparation based on daily demand and one combined material request

WORK ORGANISATION

Box preparation becomes part of the daily packing routine.

Conclusion: implemented changes and estimated savings

Sources: [U]

Problem and current state

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KERN SCALES

Repeated setup and duplicate data entry

ROUTINE COUNTING

Component selection › Sample counting › Manual reference setup › Quantity measurement

Approx. 23 s in total to prepare the counting reference

STOCKTAKING

Printing lists › Setup and measurement › Recording the quantity › Searching and re-entering data

Waste: recreating the counting reference and re-entering the result

Sources: [U]

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KERN SCALES

Improvement goals for the KERN scales

FOCUS	PREVIOUS PRACTICE	INTENDED CHANGE
References	Repeated sample counting and manual setup, approx. 23 s	Reuse of a suitable stored counting reference
Stocktaking	Paper records followed by electronic data entry	Electronic recording at the workstation and export of the results
Traceability	Separate manual tasks	Shared database and review of system activity

Indicator: time spent preparing the counting reference again

Sources: [U]

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KERN SCALES

Team and contribution to the solution

Viktor Ivanov

Work process analysis

Software development

Connecting the first two scales

Store Alfa

Veselka Angelova

Neli Ivanova

Store Bravo

Tsvetoslava Nacheva

Store teams help define the work process and operational needs

Sources: [U]

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KERN SCALES

Process causes and corresponding solutions

OBSERVED WASTE	PROCESS CAUSE	SOLUTION
Repeated reference sample	The previous method does not reuse shared data	Shared database and reference retrieval by component code
Manual setup	Selecting a reference sample for every setup	Storing a suitable counting reference for the component
Duplicate data entry	Paper records are separate from electronic reporting	Confirmation at the workstation and data export

Changing the work method removes the repetition

Sources: [U]

Plan and implementation

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KERN SCALES

Implementation: 3 August to 10 September

July

Observation and discussion

3 Aug

Development starts

10 Aug

First store scale

28 Aug

Second store scale

10 Sep

Plastics control measurements

TECHNICAL IMPLEMENTATION COMPLETE

Alfa and Bravo: counting. Plastics: control measurements.

Sources: [U]

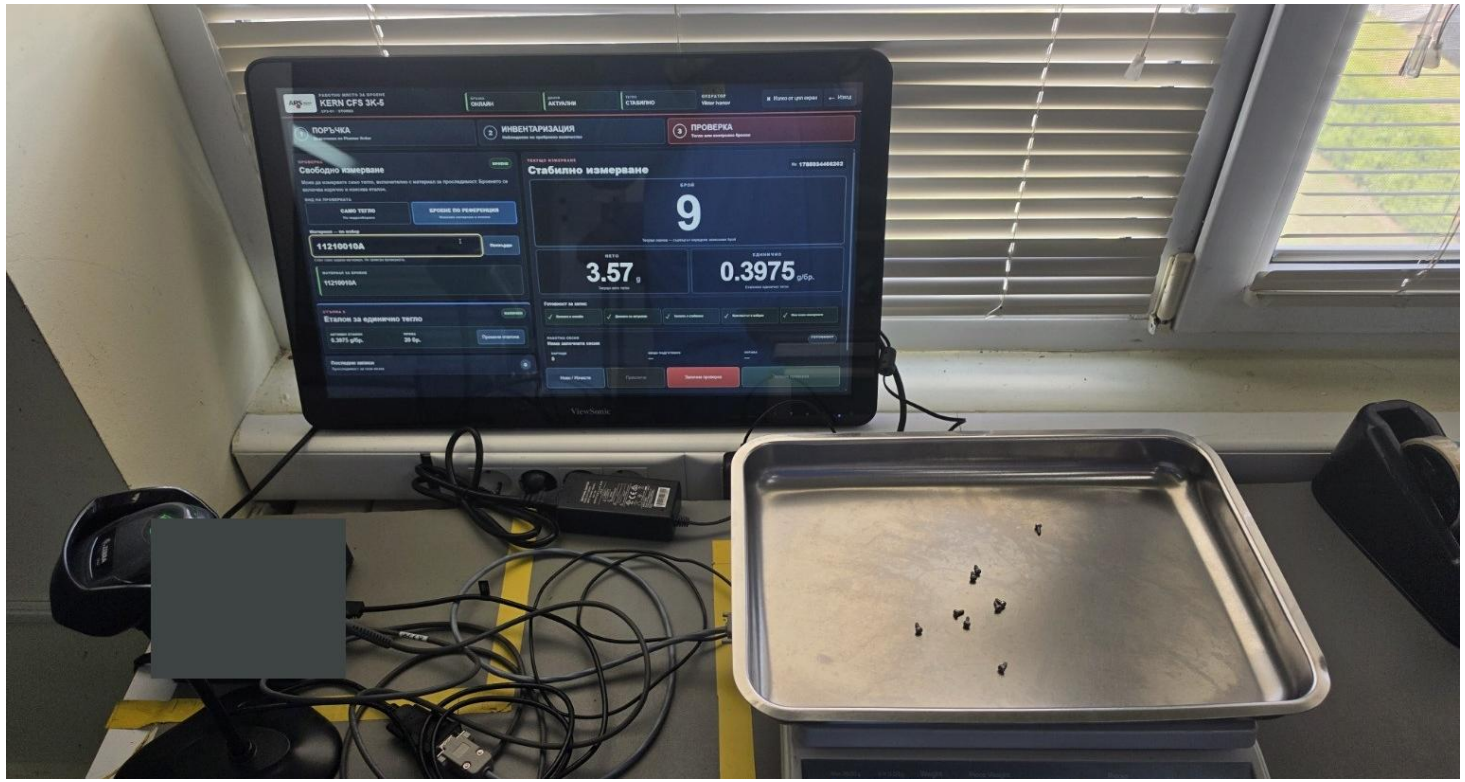
Implemented workstation

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KERN SCALES

Shared data and barcodes for the existing scales



Identification

Barcode scanner for component selection.

Shared data

Stored counting reference in the APS software.

Electronic result

Weight, calculated quantity and confirmation.

Sources: [P], [U]

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KERN SCALES

The new counting and electronic recording process

01 **Barcode scanning** › 02 **Loading the reference** › 03 **Quantity measurement** › 04 **Confirmation in the system** › 05 **Exporting the results**

Routine work

The stored reference replaces repeated sample counting.

Stocktaking

Record and export at the workstation without subsequent re-entry.

Electronic stocktaking is implemented; its annual benefit is forecast

Sources: [U], [P]

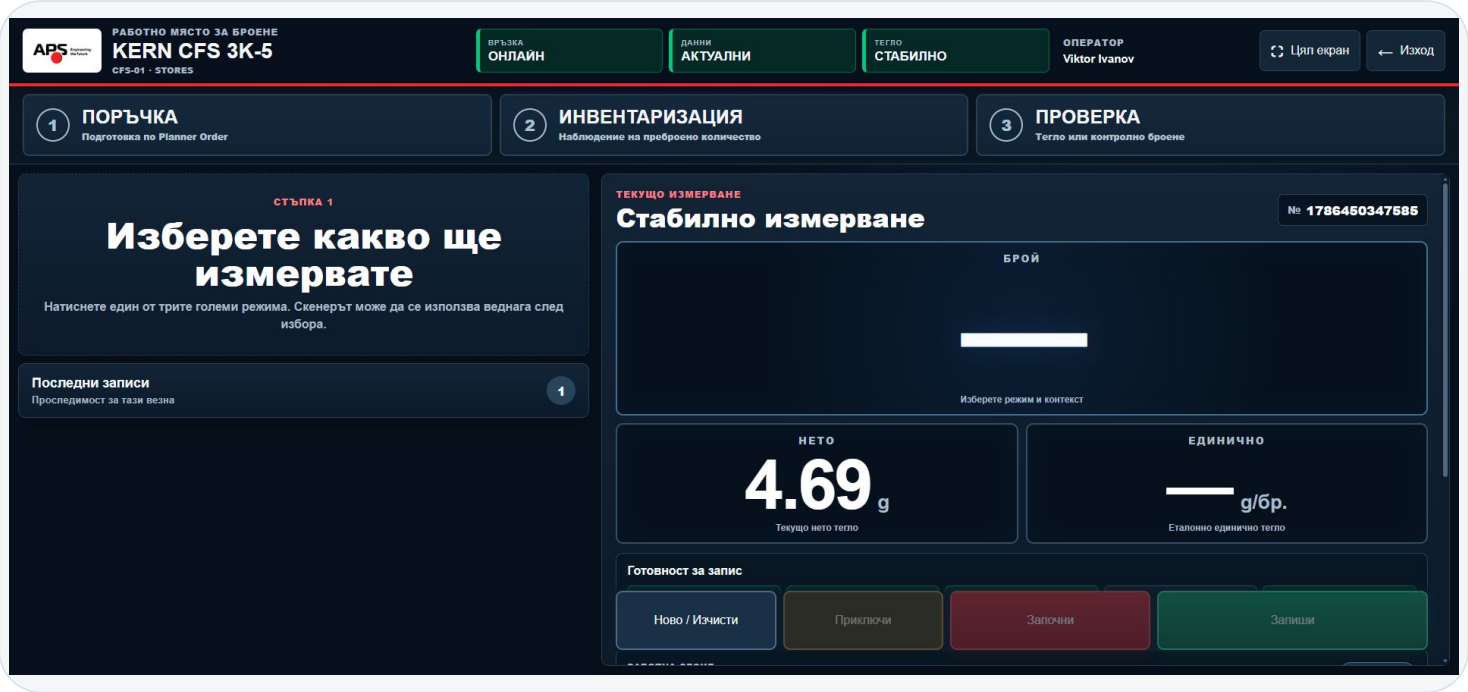
Working interface

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KERN SCALES

Working interface with task selection



Task selection

Order, stocktaking or control check.

Scale status

Connection, data freshness and weight stability.

Measurement records

Current weight and access to recent records.

Mode selection and scale data are available at the same workstation.

Sources: [P], [U]

Operation result

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KERN SCALES

A stored reference removes repeated setup

BEFORE

≈23 s

Manual sample counting and reference setup.

AFTER

0 s

No repeated setup when a suitable reference is stored.

One suitable reference is reused many times

Approx. 23 s is a setup estimate. Measurement and checks remain.

Sources: [U]

System activity in September

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KERN SCALES

A reference is available for 87.1% of requests

1-30 September 2026: Store Alfa and Store Bravo only

744
component selections

646
requests with an available reference

86
stored reference versions

742 REQUESTS: 646 REFERENCES AVAILABLE, 96 MISSING



382 barcode selections, 362 manual selections

Requests measure data availability. Completed counts are recorded separately.

Sources: [D]

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KERN SCALES

Three workstations and shared data maintenance

Store Alfa

Routine counting
Electronic workflow

Included in the estimate

Store Bravo

Routine counting
Electronic workflow

Included in the estimate

Plastics workshop

Control measurements
Implemented on 10 Sep

Excluded from the time estimate

1-2 new codes per month

Once the database is populated: references for new codes and checks when needed.

Sources: [U], [K]

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PACKING

Packing: preparation based on daily demand

ELEMENT	BEFORE	NEW WORK METHOD
Preparation	A dedicated person prepares empty boxes in advance	Final packing prepares what is needed for the day
Priorities	Preparation about one week in advance	Demand based on products and export dates
Materials	Repeated uncoordinated trips to the warehouse	One daily request and morning receipt

Goal: daily preparation and better allocation of work

Sources: [U]

Additional project: daily work routine

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PACKING

The new allocation of morning work

MORNING: APPROXIMATELY ONE HOUR

Final packing

Receives materials for the day › Prepares boxes for intermediate packing

Intermediate packing

Continues packing during the same period

Final packing takes on preparation. Intermediate packing continues working.

Sources: [U]

Additional project: material request system

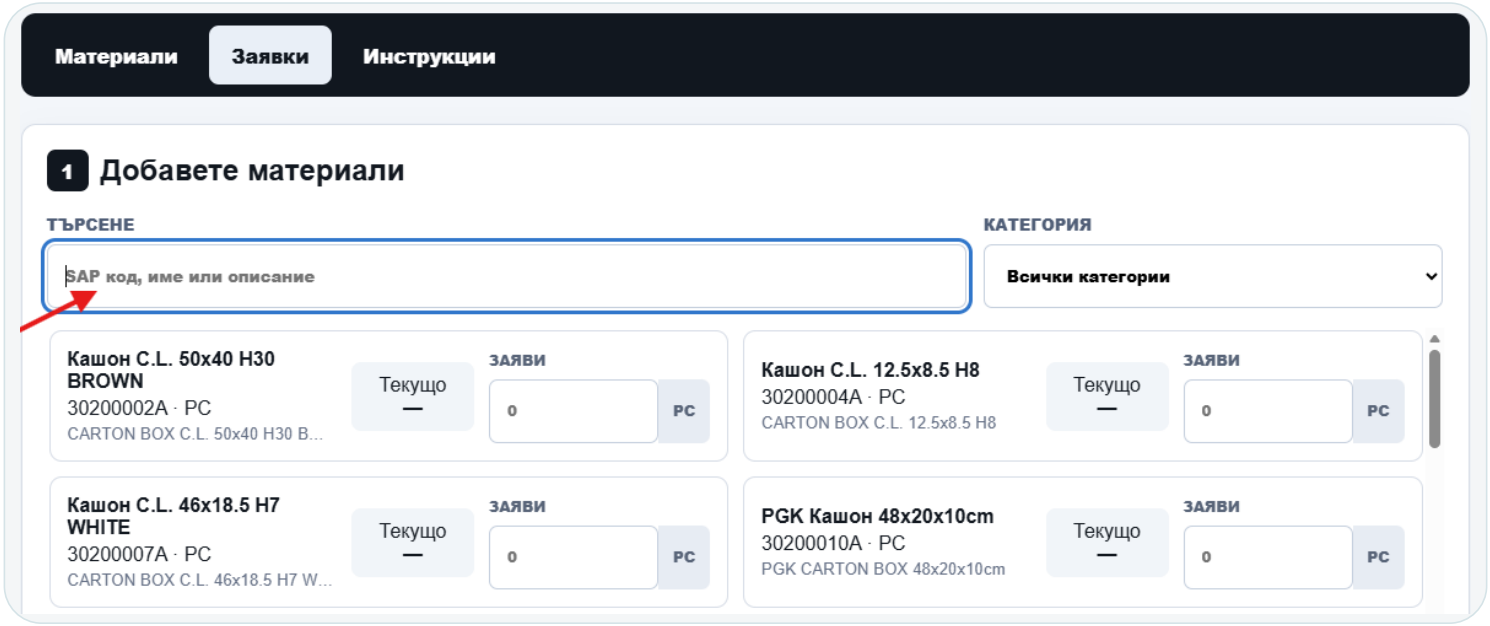
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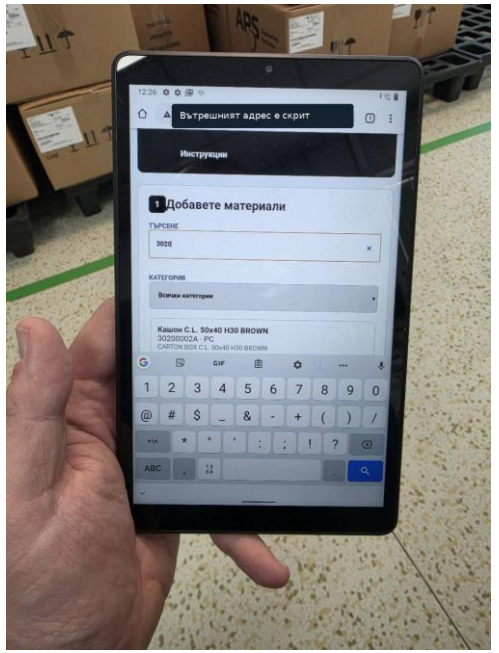
PACKING

One daily request for packaging materials

MATERIAL SELECTION AND REQUEST SCREEN



TABLET USE



Material selection, quantity and a combined daily request

Daily demand determines the request and morning receipt

Sources: [P], [U]

Packing: result and annual estimate

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PACKING

Packing: 2 employees instead of 3

3 → 2
employees in packing

−33.3%
staff assigned

12-MONTH ESTIMATE

≈16 200 €
preliminary annual estimate

After a voluntary departure, we reorganised the work without hiring a replacement.

Sources: [U], [FIN]

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5S AUDIT

Follow-up 5S audit: 94.8% in Store Alfa

94.8%
overall rating: Excellent

91 / 96
points achieved / available

1
recorded finding

Overall result	Total points	Valid answers	N/A answers	Findings
94.8%	91 / 96	24	1	1

7 October 2026: 24 applicable answers, 1 not applicable

2S: 100% 5S: 80%. No comparable baseline assessment.

Sources: [A]

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OVERVIEW

Implemented changes and estimated savings

AREA	IMPLEMENTED CHANGE	ESTIMATED IMPACT
KERN scales	Repeated setup: approx. 23 to 0 s when a suitable reference is stored	Approx. 188 labour hours of annual potential for the two stores
Packing	2 employees instead of 3 Daily preparation and combined requests	Approx. €16,200 annual estimate with the position left unfilled
In-house APS solution	External option: €1,719 APS: €70.05 plus €460 internal labour	Approx. €1,189 one-off difference including internal labour

5S: 94.8% at the follow-up audit. Annual estimates are not accrued Q3 results.

Sources: [U], [D], [A], [C]

Conclusion: our combined savings

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Q3 2026

CONCLUSION

Combined preliminary estimate

≈€16,200 per year

Unfilled position in packing

≈188 labour hours per year

Potential from the scales: approx. 23.5 eight-hour working days

≈€1,189 one-off

Difference versus an external option, including internal labour

First 12-month scenario: approx. €17,400

Assumes an unfilled position and a comparable external option, before offsetting costs.
The 188 hours are not monetised. Confirmation: Payroll/Finance.

Sources: [U]