Slitter line material and waste control software



Material and waste control software

PS1

Aftabgoon Company
(Private Joint Stock)

www.aftabgoon.com

Email: aftabgoon@gmail.com

Tel: +98 7136268520 | Mobile: +98 9171112685

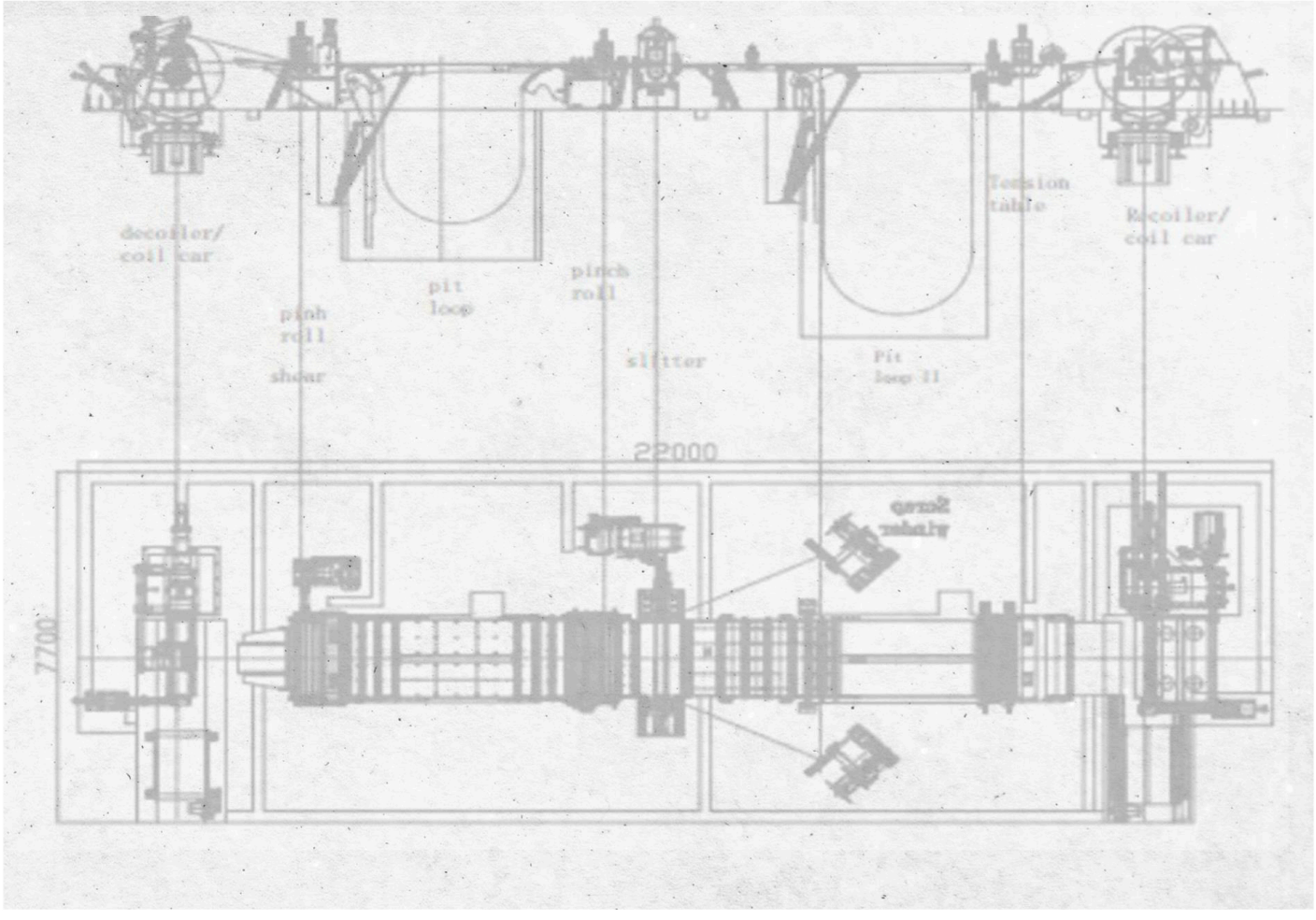
Material and waste control software

PS1

Slitter line | PS1

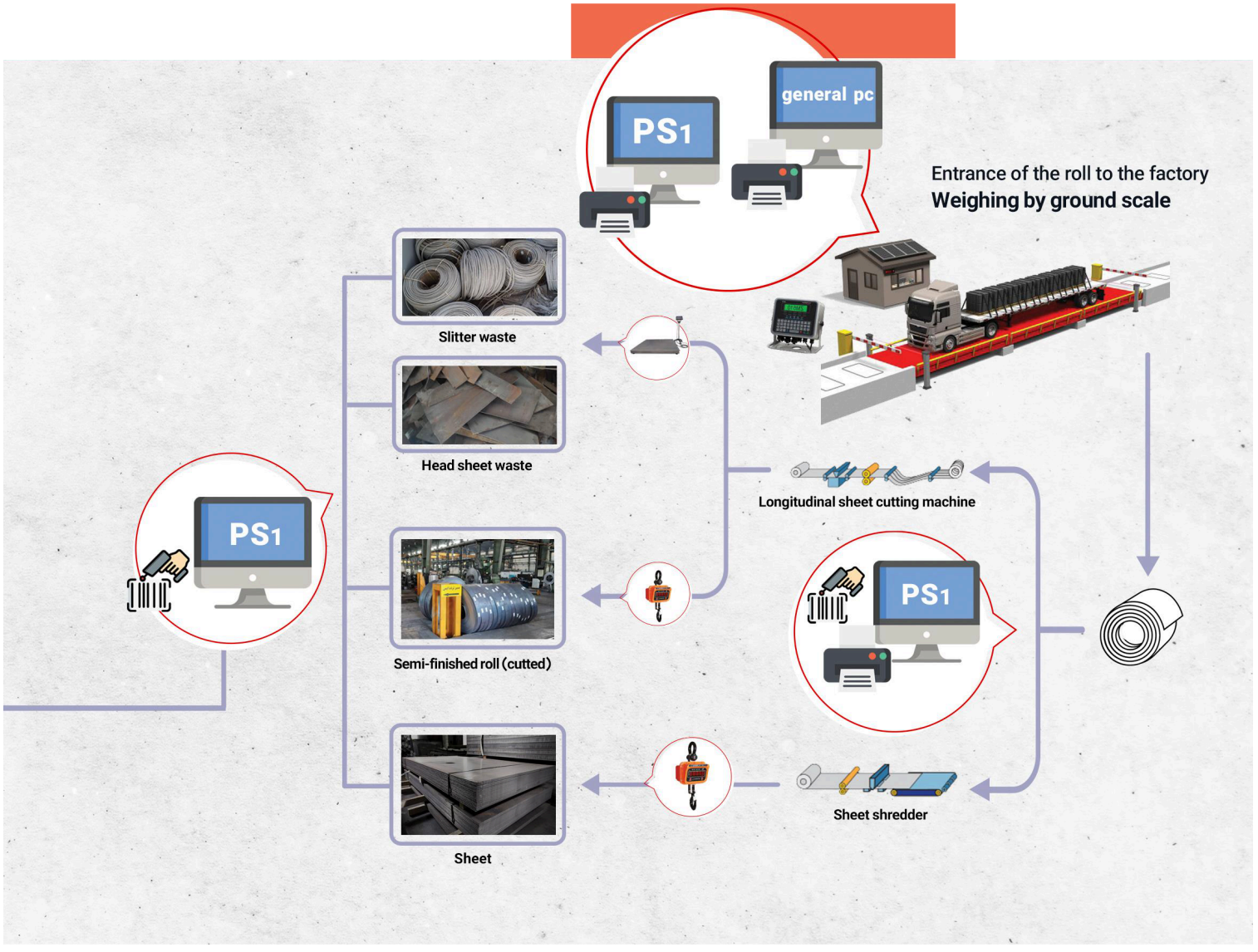
Engineering the production process

Slitter line layout



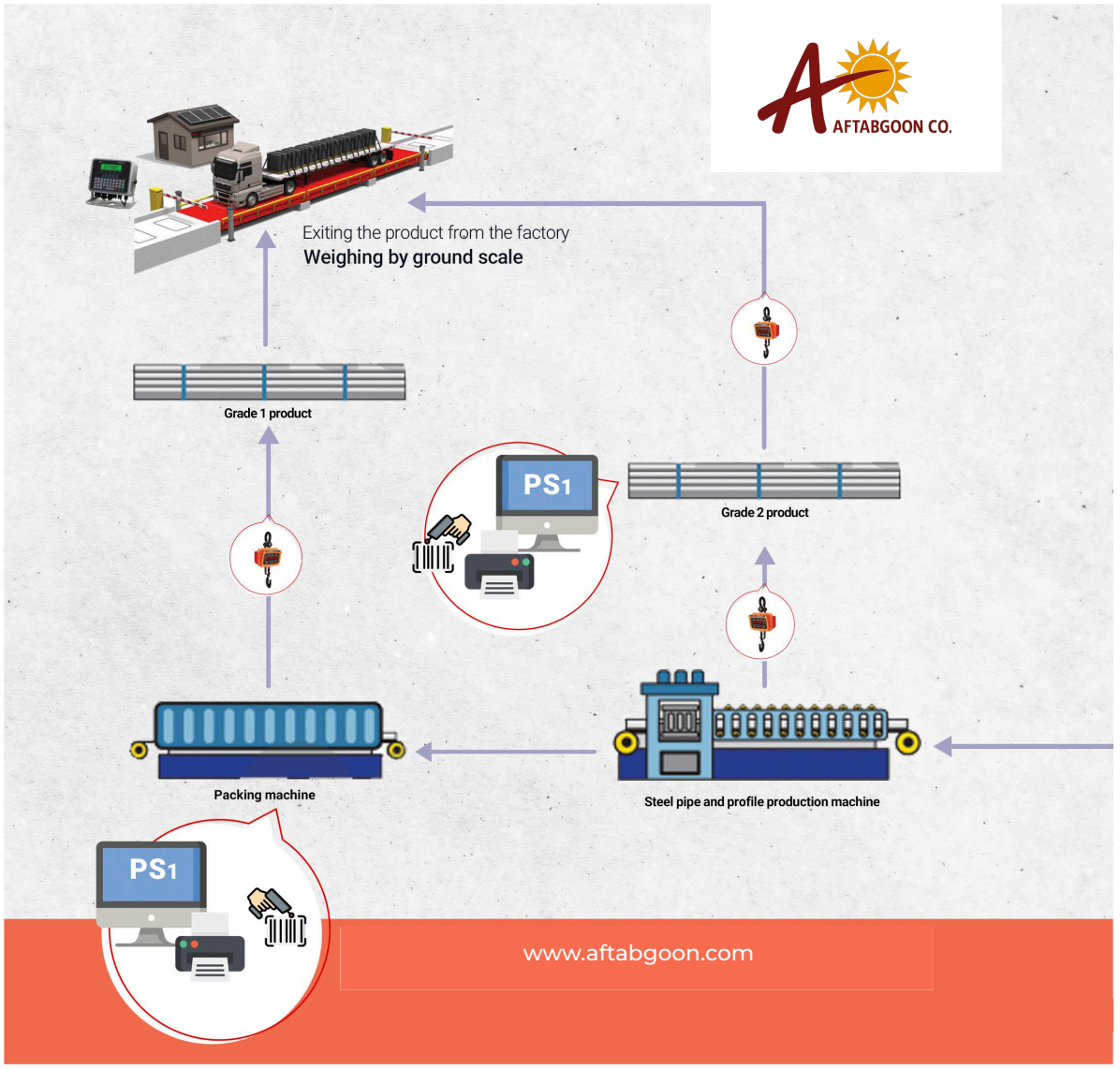
Slitter line material and waste control

From incoming coils to semi-finished stock



Production and finished-goods control

Material flow, weighing and barcode registration



Introducing PS1



Advances in science and technology, together with new industrial management methods, have made online monitoring of work processes an important part of production management. An online material and waste tracking system provides accurate, real-time production reports to support decisions, planning and supervision.

By recording material and waste information online, the system also reduces the likelihood of human error when preparing management reports.

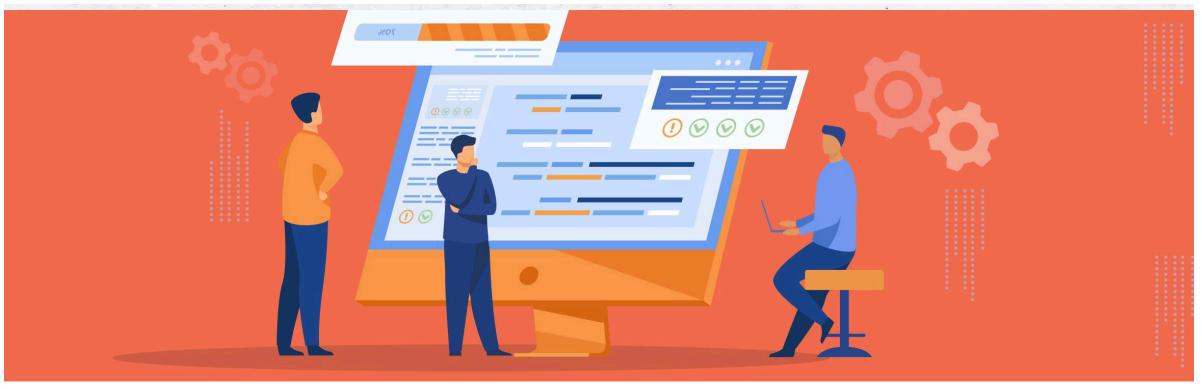
Drawing on 25 years of practical production experience in steel pipe and profile factories, Aftabgoon's specialists developed and implemented the PS1 online material and waste tracking system. It responds to the industry's need to control production-line waste and improve productivity.

Accurate, connected production data

Materials and waste generated in the slitter section are weighed, identified through barcodes along the production route, and recorded in PS1. This enables accurate, online monitoring and control of raw materials, products and production waste.

PS1 records real-time information received from scales and barcode scanners at different points on the production line. These records can be used to prepare a product bill of materials (BOM), support product costing and help investigate post-production issues.

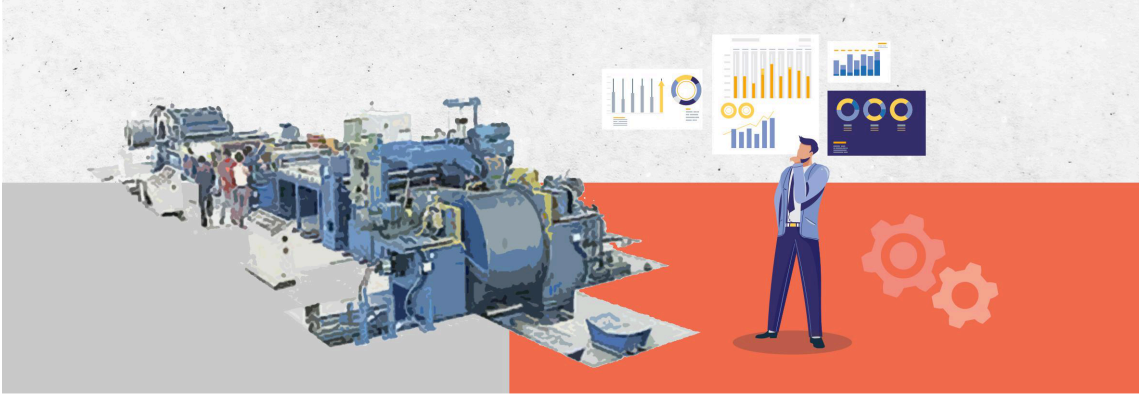
The standard PS1 software meets these needs in pipe and profile factories. For complete material and waste traceability through the end of production, Aftabgoon can also develop and implement a plant-specific PS2 system.



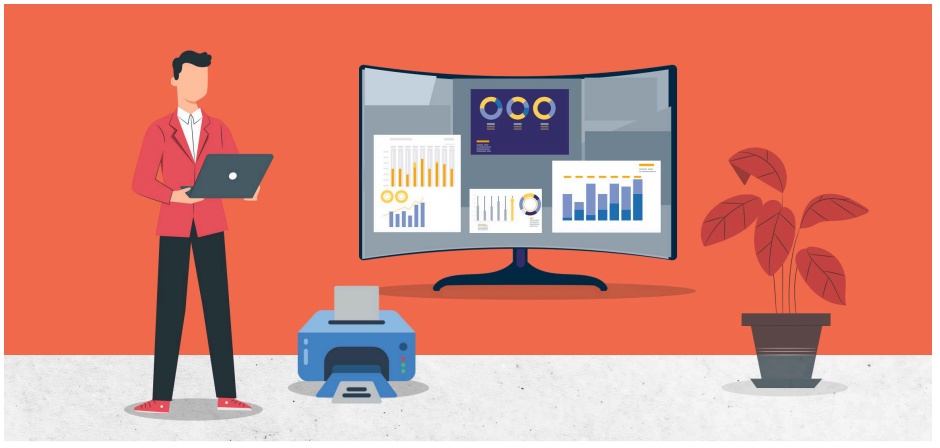
An investment in better control

Although some industrial managers regard software as a cost, an online material and waste control system is an investment that addresses recurring production-management needs:

- Real-time raw-material inventory: record incoming coil information and issue and attach a unique barcode to each coil.
- Automatic coil withdrawal: scan the barcode at the point of consumption. Information is transmitted wirelessly, without manual operator entry, and raw-material inventory is updated online.
- Real-time semi-finished inventory: issue unique barcodes after slitting to enable traceability and automatically add slit coils to stock.

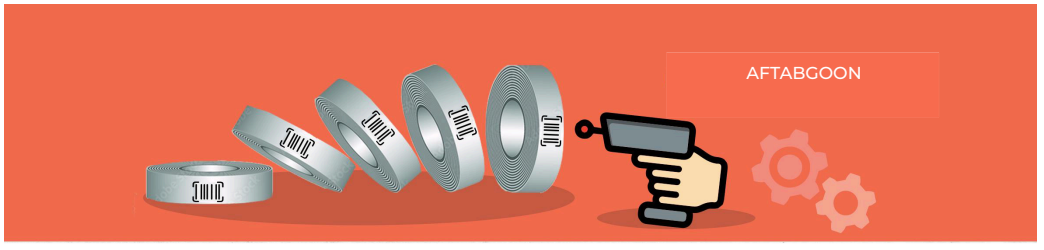


Visibility across the production line



- Scan semi-finished coils when feeding them to the production line and record their withdrawal from the semi-finished warehouse.
- Report waste-warehouse inventory in real time by recording slitter scrap online.
- Accurately report waste for each incoming coil after cutting and weighing.
- Report finished-goods inventory in real time through automatic weighing and barcoding of product packages.
- Generate daily production reports for a single product or multiple products.
- Automate accurate data recording without manual intervention.

Operations with a unique barcode



After an incoming coil is weighed on the weighbridge, its complete specifications are recorded in the material and waste control system. A unique barcode is printed and attached to the coil. At the start of the slitter line, scanning the selected coil's barcode automatically retrieves and records its information.

During slitting, the cut widths are entered and strip waste, side trimmings and coil head-and-tail waste are automatically weighed and recorded. Barcode labels are prepared and attached. Strip scrap is also weighed on a ground scale and its information is recorded automatically.

Using this information, the system calculates the weight of each cut item automatically, without manual intervention, and adds its complete specifications to the semi-finished warehouse.

During production, a barcode containing each package's specifications and total weight is prepared automatically before transfer to the finished-goods warehouse.

From barcode to management insight

The barcode label is attached to each product package, enabling complete finished-goods inventory records to be maintained automatically. Information captured at different production stages helps managers plan better and improve productivity.

The system makes the following information available online:

- Raw-material warehouse inventory.
- Semi-finished coil warehouse inventory.
- Finished-goods warehouse inventory.
- Waste control at different production stations.

These tools improve resource control. Reports on coil procurement and consumption cycles, consumption by thickness and width, comparisons of waste from incoming coils, and other standard reports provide useful information for timely raw-material purchasing decisions.

Planning, learning and waste reduction



System reports show sales volumes and product mix across months and seasons. This information supports production planning and more effective control of finished-goods inventory.

Monitoring both unavoidable waste and quality-related waste is an important and financially valuable capability. Immediate online feedback on slitter waste, once the first coil has been cut, allows the next coil's cutting plan to be improved.

Incoming coil batches have different characteristics. Cutting every batch with the same plan and total cutting pattern is therefore not always economical.

The waste control system supplies information at different levels so users can identify waste and take corrective action. Decisions informed by this feedback can improve future operations and economic results over time, including through lessons learned from short-term experience.

Raw-material receipt and registration

Implementation in a pipe and profile factory

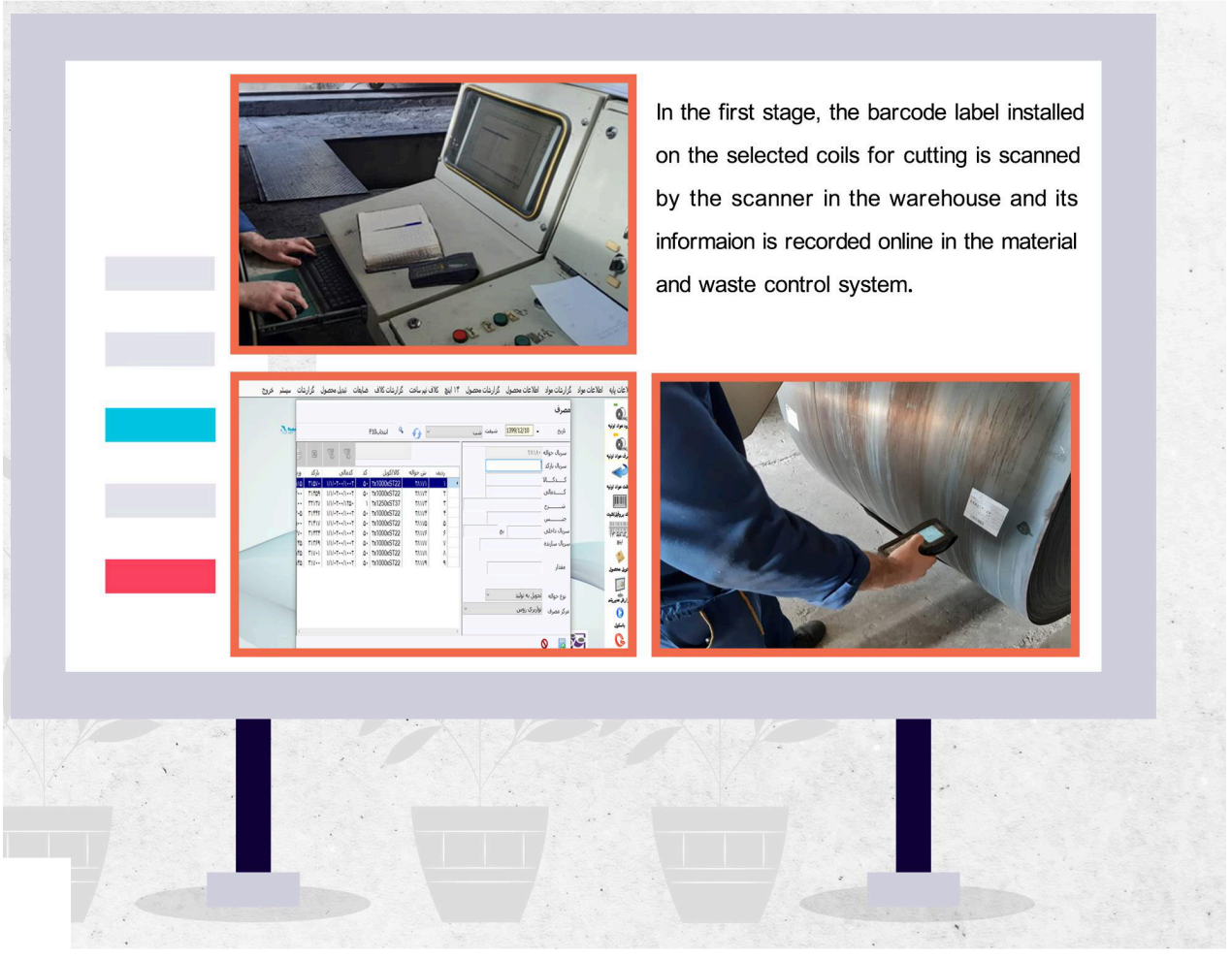
The following pages show original implementation photographs and system screens.





Raw-material consumption

First, the barcode attached to a coil selected for cutting is scanned in the warehouse. Its information is recorded online in the material and waste control system.



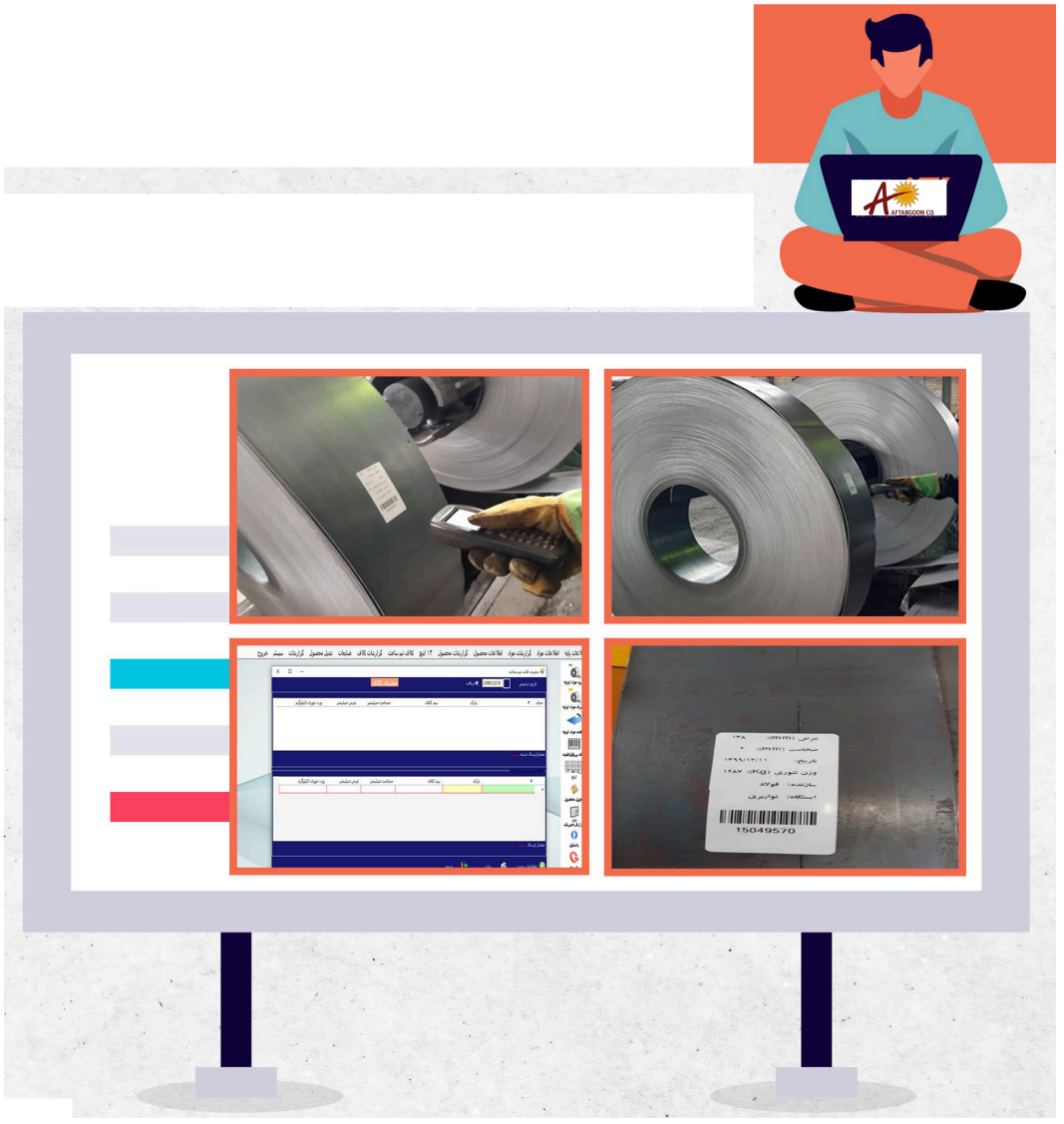
Semi-finished coil production

The next stage in the material flow



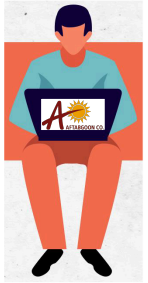
Semi-finished coil consumption

Following the semi-finished coil into production



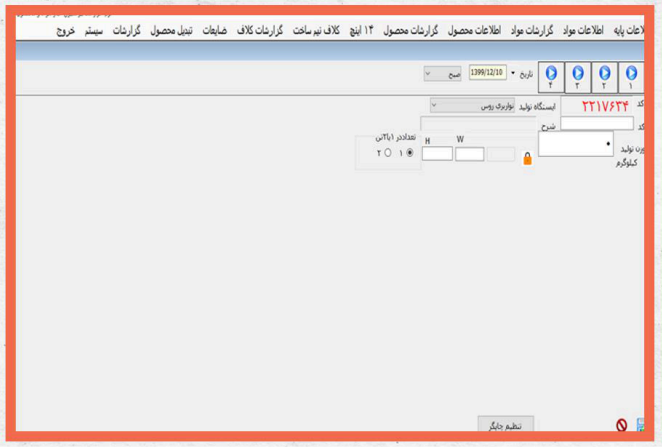
Barcode scanning at warehouse receipt

Recording the next step in the product flow











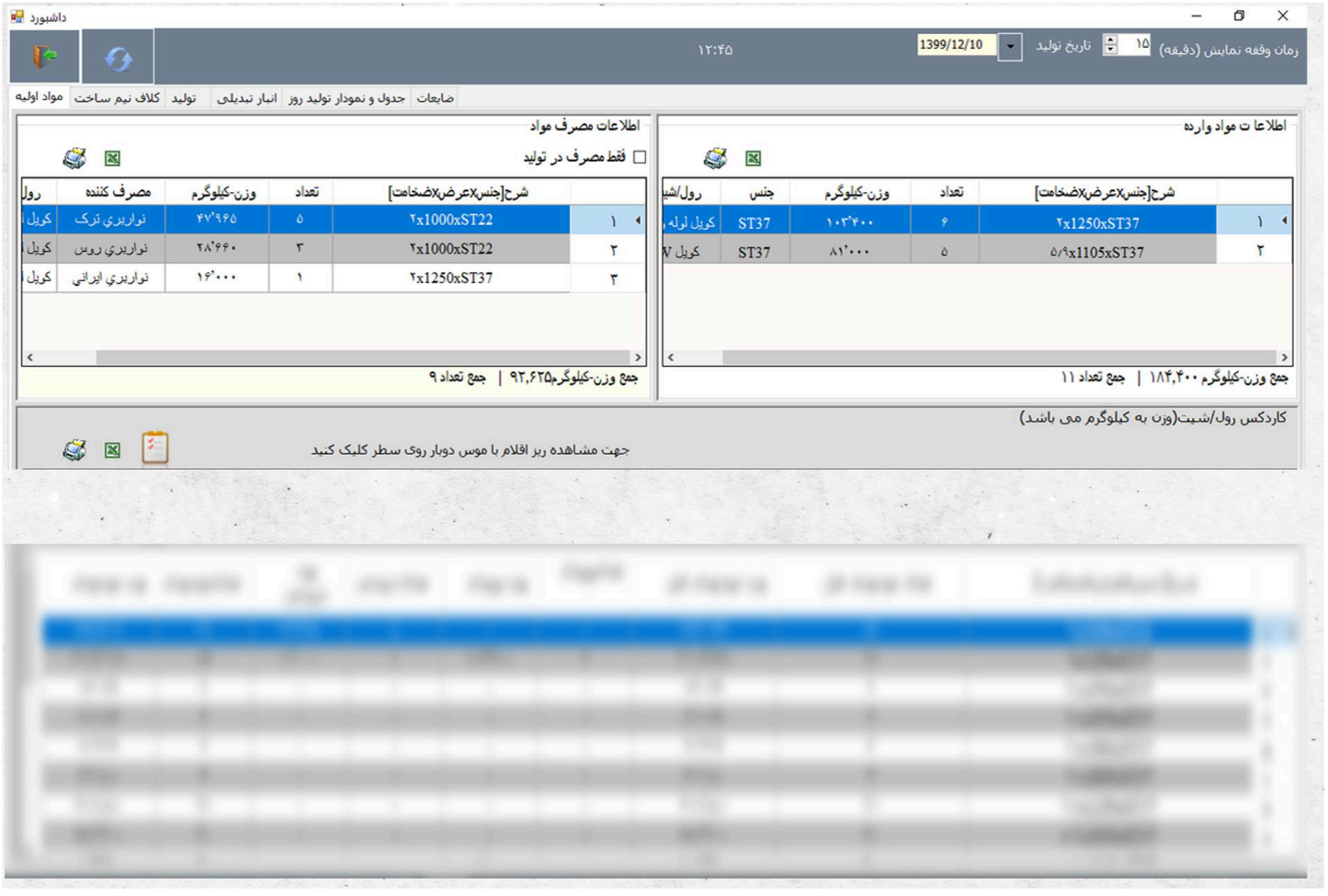
Barcode scanning at warehouse dispatch

Finished-goods dispatch records



Management reports

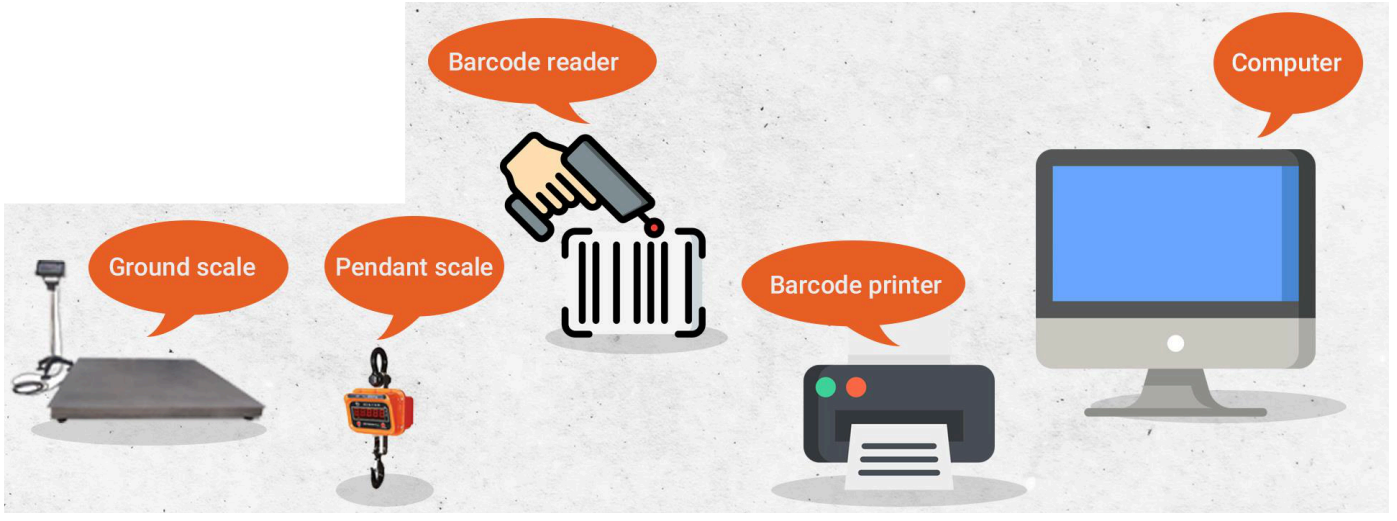
Original examples from the PS1 system



Hardware for automated data capture

Hardware quantities depend on the size of the factory. An example configuration is shown below.

6 computers	3 barcode printers	5 barcode readers	2 ground scales	4 hanging scales

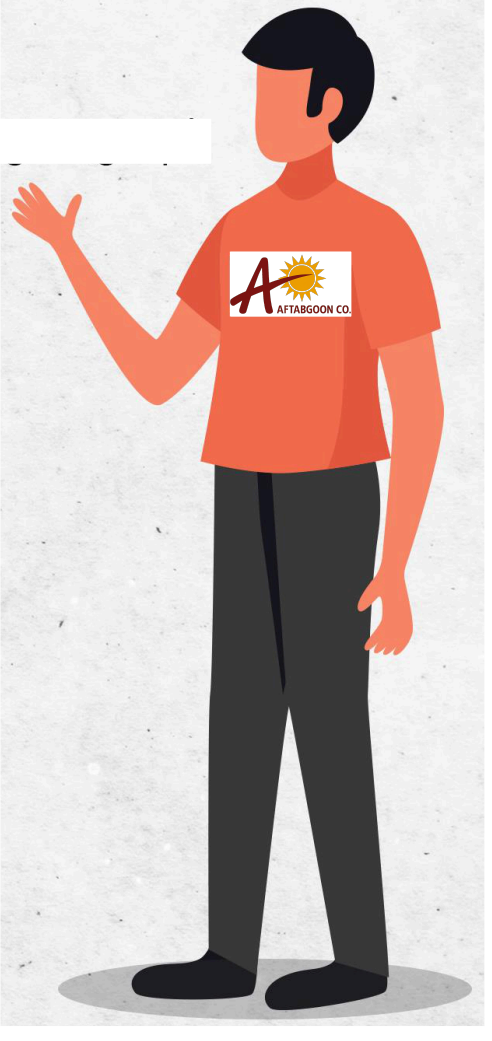


Semi-finished coil and product waste

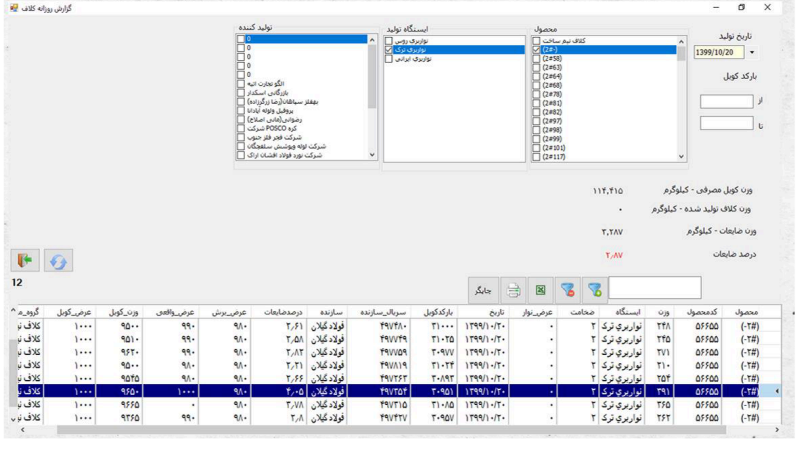
Waste categories: side trimmings, coil strapping, and coil head-and-tail waste.

Actions to reduce waste

- Record the actual width.
- Obtain the coil graph.
- Investigate and plan coil cutting using the graph.
- Categorize the planned graphs.
- Monitor results and corrective actions in real time.
- Plan cutting operations.
- Record and control information in real time.



Waste percentage after graph-based planning



Waste monitoring and coil graphs

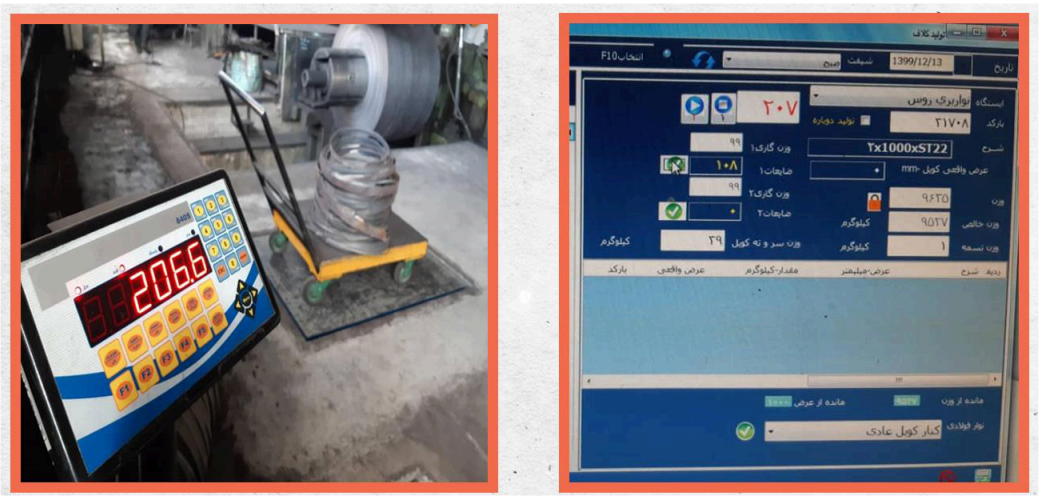
Online waste control table



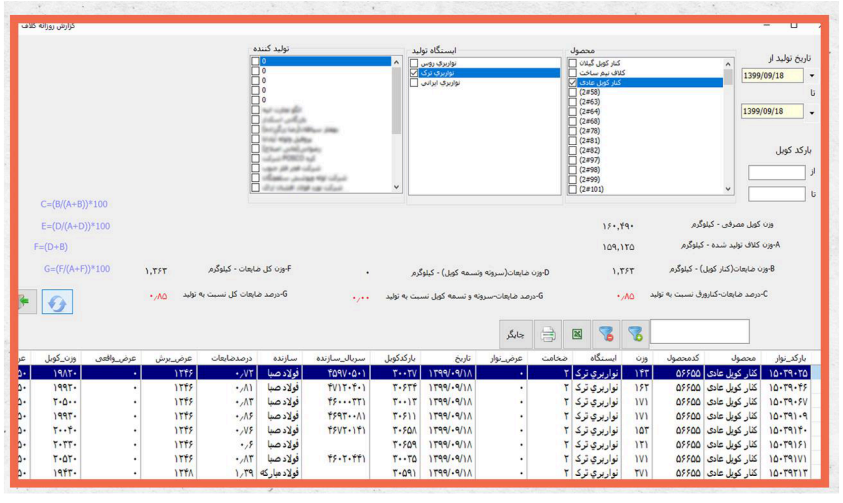
Graph for coils received from the factory

Online recording of slitter waste

Online registration of slitter waste

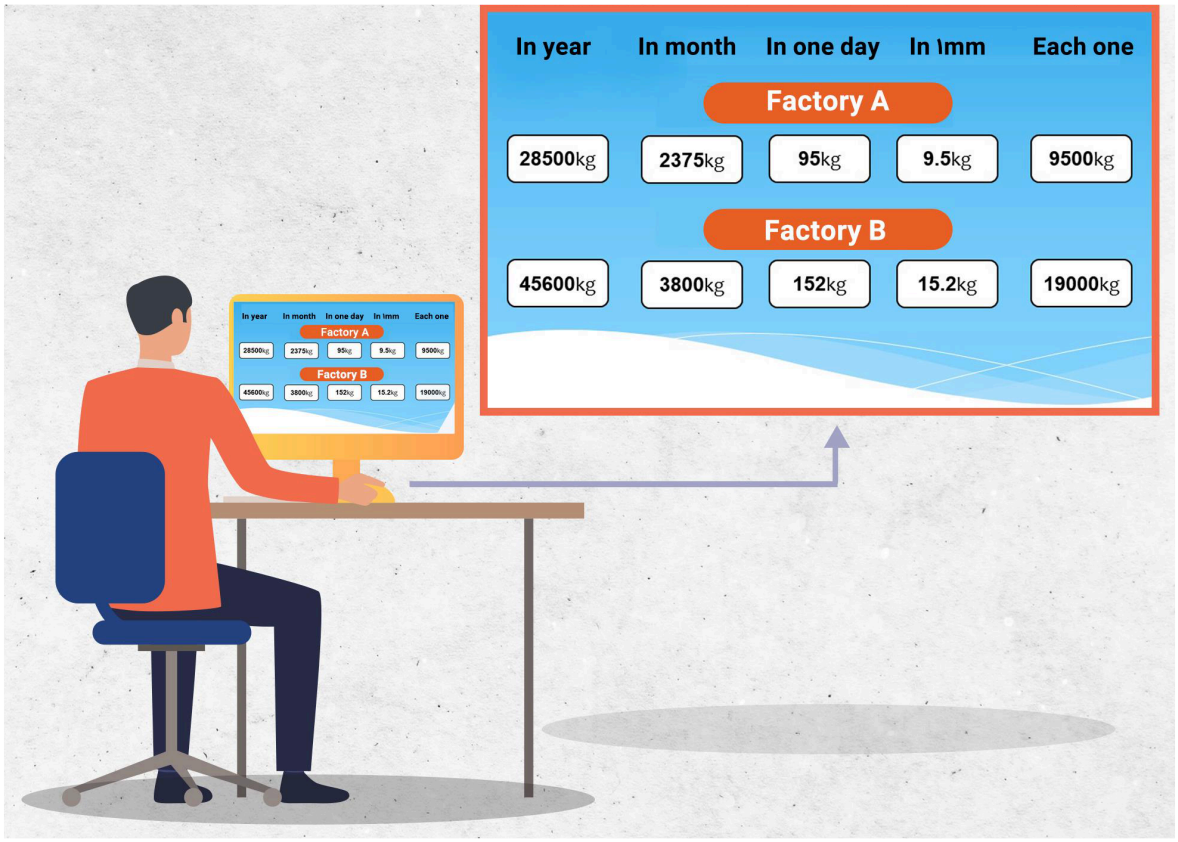


Example of a coil-sheet waste report



Example: weight reduction per 1 mm

Illustrative calculation reproduced from the original catalogue; quantities are in kilograms.



	Per year	Per month	Per day	Per 1 mm	Each unit
Factory A	28500	2375	95	9.5	9500
Factory B	45600	3800	152	15.2	19000

A final word

Drawing on years of practical experience in the production of steel sections, the Aftabgoon consulting team has successfully implemented PS1 in several factories.

The result is instant reporting on the complete condition of raw-material and semi-finished warehouses, including weight, dimensions and specifications, together with online control of slitter waste.

The software is easy to use for production-line staff with different levels of literacy. It helps reduce slitter waste and supports cutting plans and effective production management.

We hope that implementing this system will address an important part of the production-management challenges in your factory.

Thank you for reading.
Management of Aftabgoon Company



Aftabgoon Company
(Private Joint Stock)

Slitter line material and waste control software

PS1

www.aftabgoon.com

Email: aftabgoon@gmail.com

Tel: +98 7136268520 | Mobile: +98 9171112685