

PRODUCTION NETWORKING WITH HCU SOFTWARE

The tool for planning, controlling and optimising the filling department





AT HANDTMANN, INDUSTRY 4.0 IS CALLED HCU

Management of material, employees and machines

HCU MODULES

Step by step production optimisation

Are you familiar with this situation? The market environment for modern food processing plants today is characterised by cost pressure, a highly dynamic approach and complexity. High demands are placed on production managers, in particular by executive managers, the sales department and quality assurance. But the conditions are not always straightforward. The typical tasks of "analysis, planning, implementation and checking" are often difficult.

THE CHALLENGE

- Production information is often incorrect, or is incomplete or late when it reaches the production manager.
- The time needed for efficient planning and optimisation is often not available.
- Instructions are not understood, are forgotten or simply not put into practice.

HCU – THE SOLUTION

- The software solution links filling lines and, as an intelligent control tool, supports production management with the documentation, analysis and organisation of the filling department.

THE IMPLEMENTATION

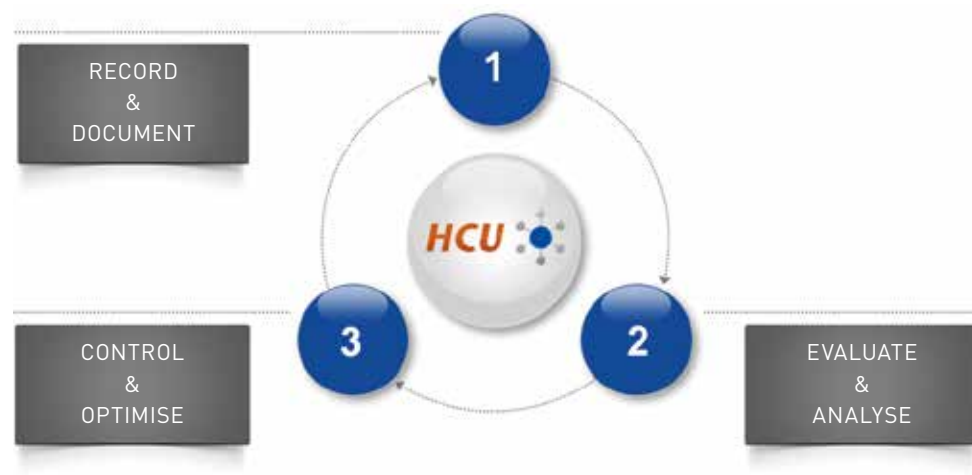
- Process data is collected and stored automatically and therefore promptly and correctly.
- Large volumes of data can be analysed quickly and easily.
- Optimisations are built in and therefore executed directly and without any losses.

Basic module	Weight control module	Production planning module
Program management	Automatic weight recording (grams)	Graphical tool for planning the production quantities for the connected filling lines
Data recording/analysis	Correction of the set volume (ccm)	Automatic consideration of the real filling capacity depending on <ul style="list-style-type: none"> • Machine • Product • Number of operators
Parameter limitation	Compensates for fluctuating raw material density	
Down-time recording	Reduces overfilling or underfilling	Online transmission of the order list to the machine's control system

Installation and configuration are easy and centralised: The production manager organises the filling lines and scales as well as the programmes on the vacuum fillers directly from the PC. Renaming and standardising, transferring from one line to the other, as well as saving and printing are also carried out directly on the PC.

System requirements

- All vacuum fillers with PCK2, PCK3 or PCM control systems
- Commercially available PC with 8 GB RAM and Windows 7 and Office 2007 or later
- Recommended screen resolution 1,920x1,200
- Ethernet network (RJ45 cable to each vacuum filler and scales)



BASIC MODULE: DATA RECORDING AND EVALUATION

Production data recording for perfect process analysis

Batch tracking, accurate documentation of production for each filling line and recording down-times ensure 100% traceability, reveal weak points and thus provide information on the potential for savings. It is possible to improve production capacity utilisation in a targeted way due to the transparency and direct comparability of the filling lines.

DATA RECORDING

- Recording of all machine stops.
- Documentation of the shift and number of operators.
- Individual classification of down-times (breaks, cleaning, conversion, etc.)

DATA ANALYSIS

- Line comparisons
- Daily comparisons
- Production history
- Production overviews (representation of process data in graphs and tables).

PRODUCTION CONTROL

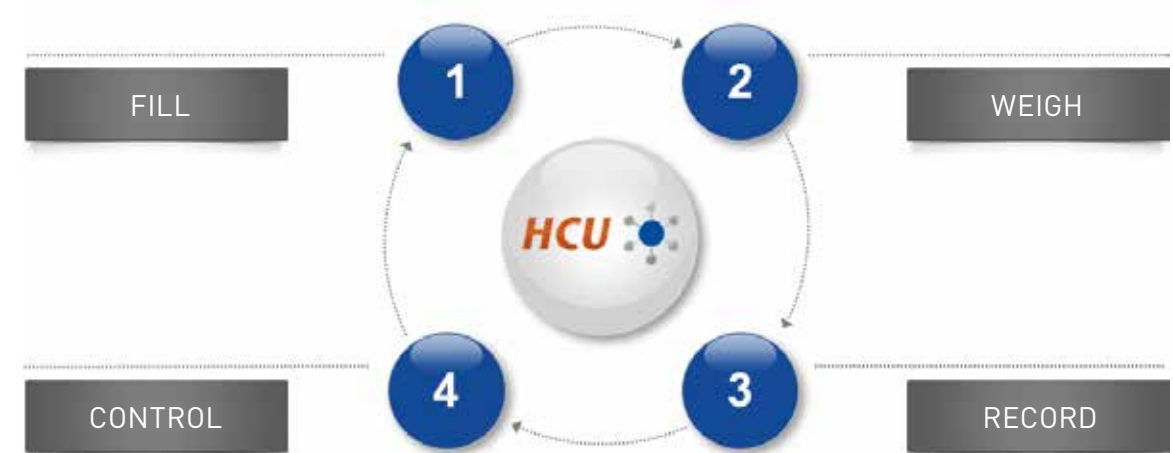
- The production parameters can be limited individually for each item. This prevents production faults caused by operating errors.

SIMPLE DATA TRANSFER

The production data is saved in a database, and can be selected using the HCU Viewer and then exported directly to Excel. When data is exported to Excel, individual pivot tables and graphs are automatically created, such as machine operating time per day, quantities per day or month, signals from the metal detector per machine, item or day, as well as hourly output per line, item or day.

ADVANTAGES

- Intuitive and easy operator prompting
- Multi-language navigation interface
- Enhanced data export for connection to ERP systems (e.g. SAP etc.)



MODULE: WEIGHT CONTROL

Significant cost reduction due to automatic weight control

There are a variety of factors that can negatively impact accurate portion weights, such as the recipe, temperature and air fluctuations in the material, and machine wear. The effective solution is automatic weight control with the HCU by means of the integration of a weighing system. Checkweighers linked to the network are used for an on-going target/actual value comparison of the set values and the measured weights. A trend calculation tunes the Handtmann filling lines that are also connected to the network. The system then automatically adjusts the portion weight.



Example calculation

Daily production (in kg)	Potential savings (in %)	Annual material savings (in kg)*	Costs per kg (in €)	Annual cost savings (in €)
5,000	2,00%	25,000	2,50 €	62 500,00 €

* based on 250 production days

ADVANTAGES

- Automatic weight recording (grams)
- Correction of the set volume (ccm)
- Compensation of fluctuating raw material density
- Accurate weights due to automatic weight control
- Significant cost reduction due to reduction of underfilling or overfilling

Smoke stick scales for potential savings with AL systems

With smoke stick scales, the weight is calculated from the average of all the portions on the smoke stick – not, as with other applications, of the individual sausages. Weighing entire smoke sticks produces smaller differences, more accurate averages and a narrower spread.

Scales suitable for integration

- Bizerba iS30 scales with Ethernet
- Bizerba CWP Neptune
- Mettler Toledo IND890
- Other scales on request.



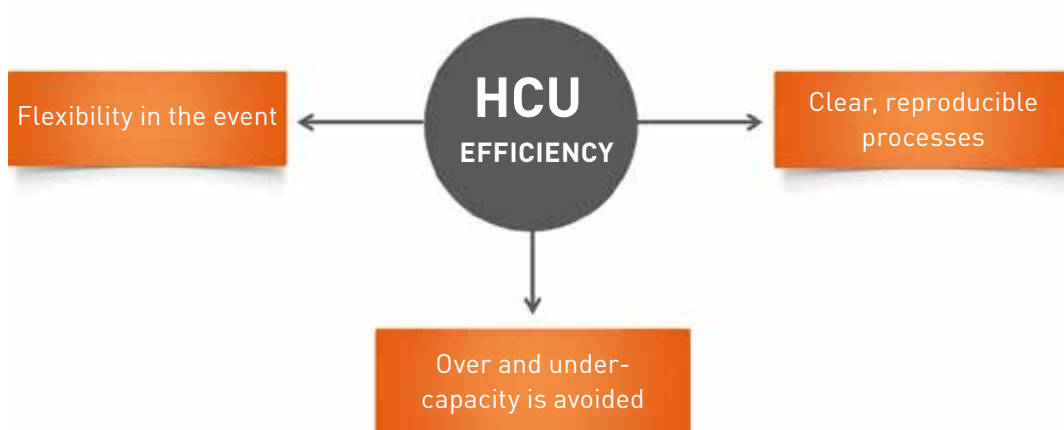
MODULE: PRODUCTION PLANNING

Convenient production planning from the PC workstation via the mouse

The HCU tool for planning and transferring production volumes to the production lines. Production line availability, the number of operators and the product to be filled are automatically taken into consideration. The order list is transferred to the vacuum filler control system easily and centrally with just a click of the mouse. And complete production can start right away.



Advantages of the production planning module



ADVANTAGES

- Simple and intuitive navigation
- Fast planned volume allocation
- Breaks taken into consideration
- Production plan can be accessed directly on the vacuum filler control system
- Flexibility when making planning changes
- Clear, reproducible processes
- Over and under-capacity is avoided
- Production planning under consideration of filling product management (e.g. allergens)
- Machine cleaning planning

HCU online production

With a click in the HCU Viewer, the current production outputs can be accessed in real time. This ensures an ongoing overview of current production. Problems which may occur in connection with the operating staff, the machine or the material flow are identified straight away.

ADVANTAGES

- Ongoing overview of production
- Faster response to production problems
- Less work for the person in charge of production

Looking at the return on investment, it is apparent that, by using HCU, costs can be reduced significantly in numerous areas. And the licence costs for the software are very low in comparison. HCU is thus an investment that pays off – in many ways.

ROI assessment

TEUR

60

50

40

30

20

10

Quality deficits

Misproduction

Overfilling

Operating errors

Adaptation errors

Inefficient processes

HCU licence costs

Cost savings



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