



# Impact of digitalisation on traceability, quality management

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# Optimizing of processes with digitalisation

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- Up-stream and downstream traceability
- Integration of laboratory data
- Web-based application for mobile data capture of raw materials
- Planning of machine allocation and utilization cleaning times
- Route optimization with documentation of cooling temperature

# “Industry 4.0”: ERP software as a platform for digitalization



## Computer

- In your pocket & in your hand (smartphone, handhelds)
- On the table (laptop / PC)
- In the cabinet (server)
- In the building (data center)
- With special equipment (suitable for damp environment)
- For special control systems

## Software

- For all business areas
- At any time
- Stationary or mobile
- Integration possible with all points and stages of the value chain
- For all organizational tasks, today and tomorrow

## Business consulting

- Comprehensive in time & purpose
- Always up-to-date
- Competent and optimal in all details
- Continuously economic

FIGURE 6

### Top Priorities

Q. What food trends does your organization anticipate prioritizing over the next year?

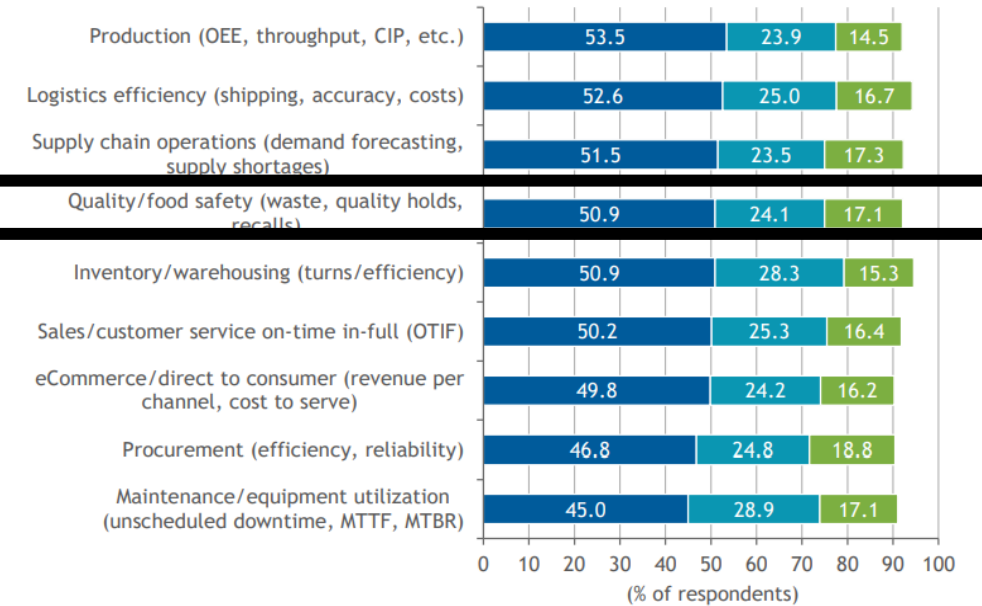


n = 669

Source: IDC's Food and Beverage Industry Survey, June 2022

### DX Initiatives Are Delivering Results

Q. What areas of the business do you expect or have you seen KPI improvements from digital transformation initiatives?



n = 669

Source: IDC's Food and Beverage Industry Survey, June 2022

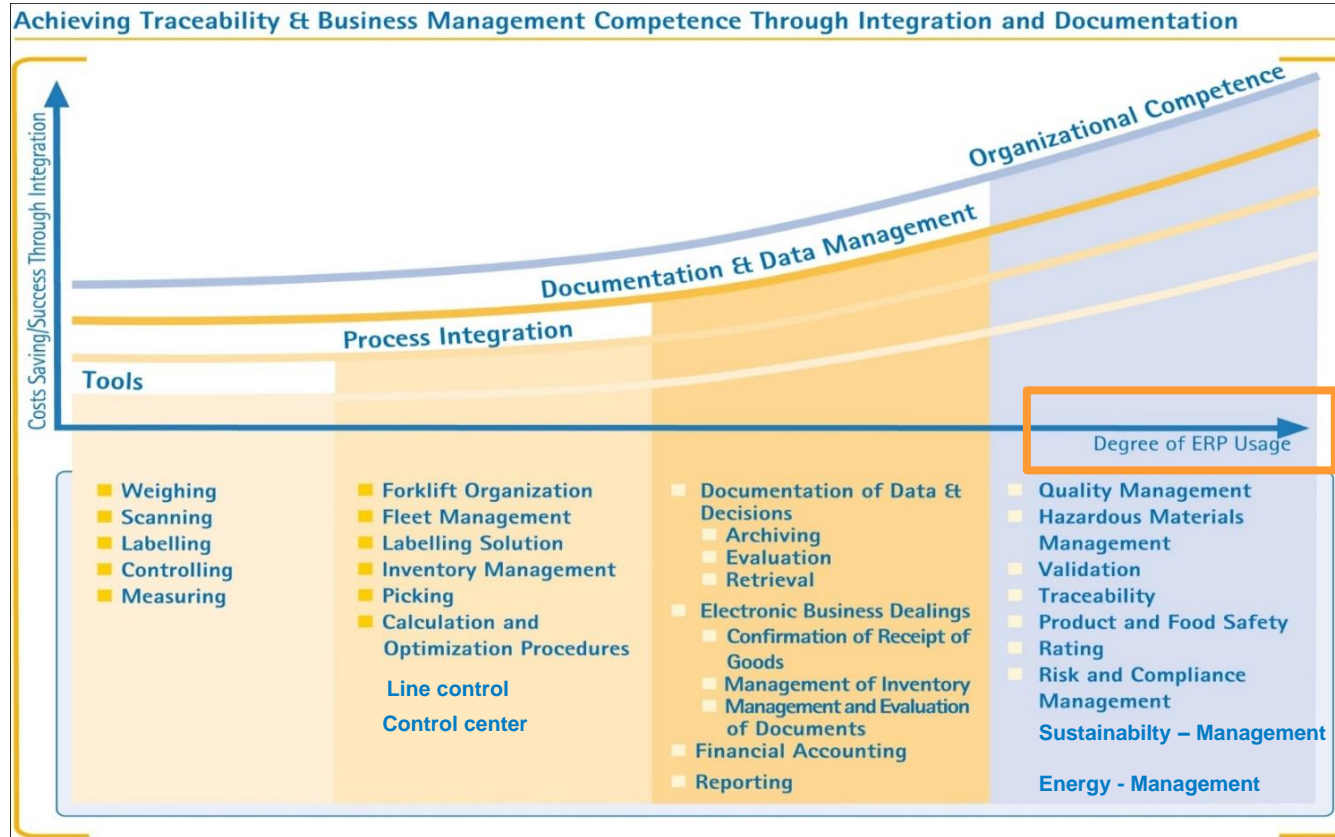
Digitalization  
is the platform  
for traceability  
and  
quality management  
to implement  
food safety  
for the consumers

## Study on Evaluation Index Model of Food Safety

| The first level indices            | The second level indices                | Weight | The third level indices                           | Weight | Transcription with CSB-System |
|------------------------------------|---|--------|---|--------|-------------------------------|
| Evaluation indices for Food Safety | Enterprise design and implementation    | 0.12   | 1 layout of the factory                           | 0.22   | IT-layout x                   |
|                                    |   |        | 2 equipment, tooling, piping                      | 0.23   | IT-equipment x                |
|                                    |   |        | 3 architectural decoration                        | 0.27   |                               |
|                                    |   |        | 4 sanitary facilities                             | 0.26   |                               |
|                                    | Food enterprise management requirements | 0.30   | 5 organizational leadership                       | 0.18   | x                             |
|                                    |   |        | 6 management goal and objectives                  | 0.16   | x                             |
|                                    |   |        | 7 management responsibility                       | 0.17   | x                             |
|                                    |   |        | 8 production equipment                            | 0.08   | x                             |
|                                    |   |        | 9 staff requirements                              | 0.13   | x                             |
|                                    |   |        | 10 technical standards                            | 0.10   | x                             |
|                                    |   |        | 11 process documents                              | 0.09   | x                             |
|                                    |   |        | 12 document management                            | 0.09   | x                             |
|                                    | Control of food hygiene and quality     | 0.58   | 13 procurement systems                            | 0.08   | x                             |
|                                    |   |        | 14 procurement inspection                         | 0.13   | x                             |
|                                    |   |        | 15 process management                             | 0.13   | x                             |
|                                    |   |        | 16 quality control                                | 0.11   | x                             |
|                                    |   |        | 17 product protection                             | 0.07   | x                             |
|                                    |   |        | 18 testing equipment                              | 0.07   | x                             |
|                                    |   |        | 19 test management                                | 0.10   | x                             |
|                                    |   |        | 20 process inspection                             | 0.11   | x                             |
|                                    |   |        | 21 normative use of food additives                | 0.10   | x                             |
|                                    |   |        | 22 recent 3 years' records of sample passing rate | 0.10   | x                             |



# From ERP usage to the Industry 4.0 / Digitalisation Roadmap



Cooperation  
Competence

- Sensors / RFID
- Standardisation
- Digital Twin
- Image processing
- Automation & Robotics
- Cloud
- Data glasses
- AGVs
- 3D printing
- Blockchain
- IT security
- Artificial Intelligence

Higher level of integration with the ERP system

ERP system as the internal digitization platform

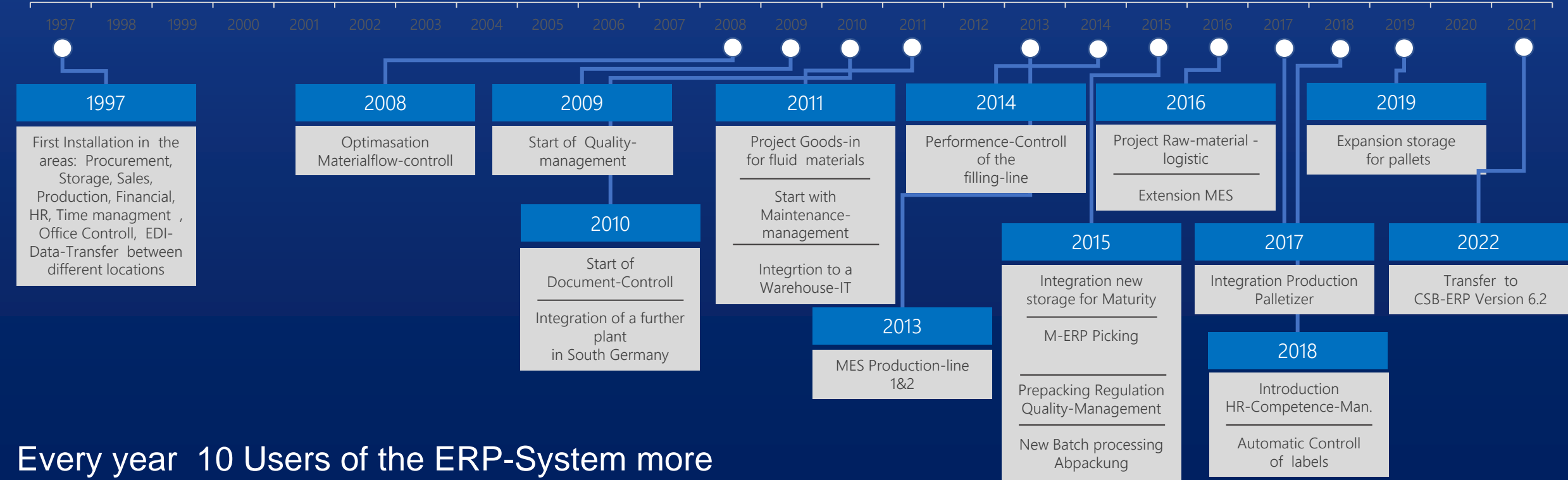
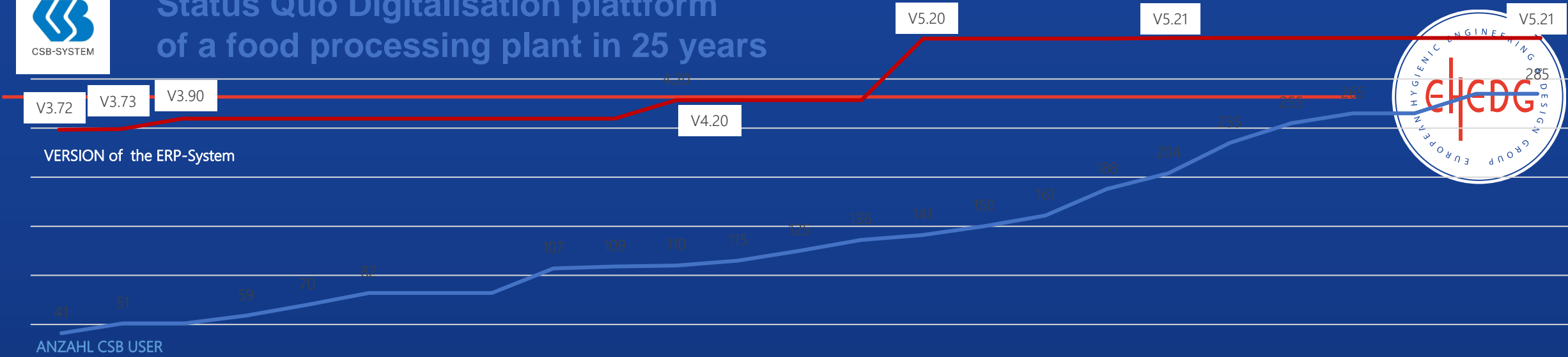
Cooperation

external digitization platform

Artificial Intelligence – AI – integration of information from different platforms



# Status Quo Digitalisation platform of a food processing plant in 25 years



Every year 10 Users of the ERP-System more



# Digitalization and organization of traceability with GS1-Standards including the integration of the consumers



GS1 BARCODES

GS1 EPC/RFID

EAN/UPC

GS1-128

ITF-14

GS1 DataBar

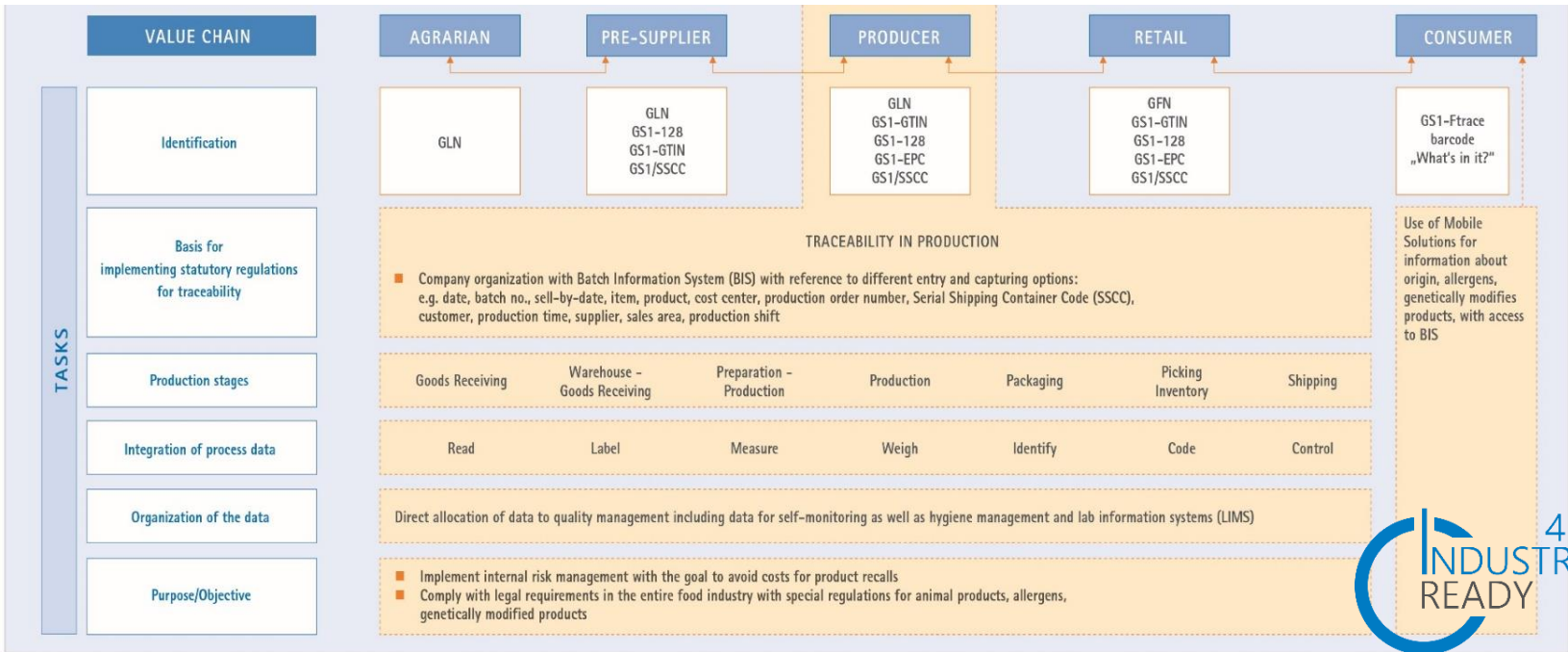
GS1 DataMatrix

GS1 QR Code

GS1 Composite Barcode

EPC HF Gen 2

EPC UHF Gen 2





# High-quality products require permanent control through cross-functional quality management.



Receiving check



In-process control



Production inspection



Production exit inspection



Hygiene control



QM manual



Evaluations, statistical quality control



Test scheduling and preventive quality assurance



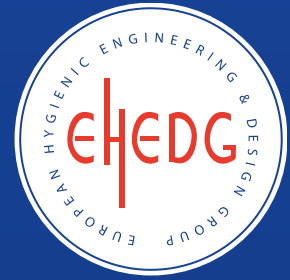
Long-term tests



Quality control test equipment, standards and machines

The CSB Quality management and lab information system captures, evaluates and analyzes all quality-related data from all areas of your enterprise online in a single cross-functional system

All quality-related data are directly captured, evaluated and analyzed online in the process and automated.



## Procurement



- Incoming goods inspection
- Vendor assessment

## Internal goods movements



- Quality monitoring based on subjective characteristics (appearance, packaging, taste, etc.) and measurable values (SbD, etc.)

## Production



- Production entry inspection
- Production inspection
- Production exit inspection
- Maintenance

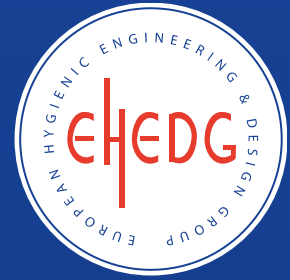
## Sales



- Shipping exit control

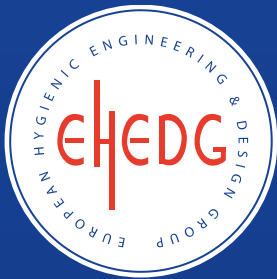
All inspection specifications are directly available within the process in the operative areas, goods receiving, internal goods movements, production as well as shipping.

# The CSB Quality management and lab information system offers the following functions.



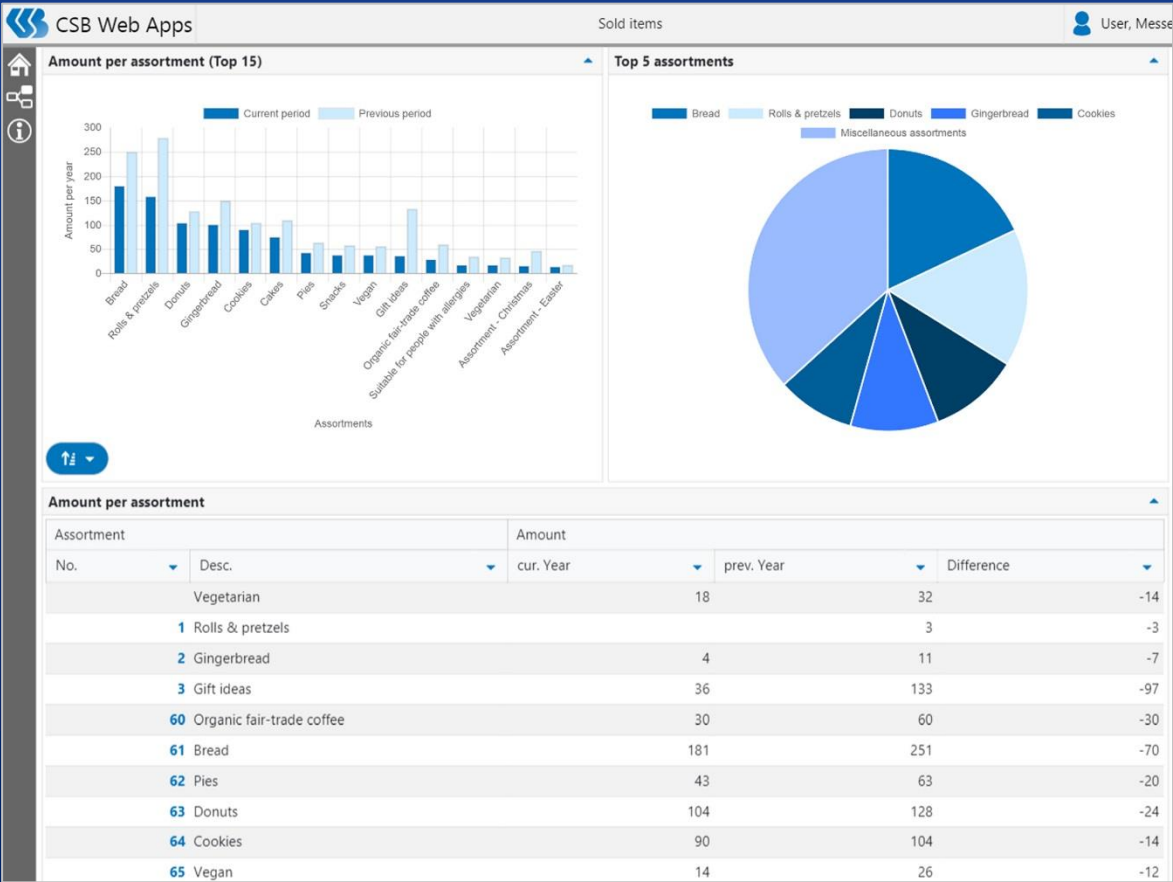
| Test planning  | Test execution   | Test measures   | Data analysis   |
|--|--|---|---|
| <ul style="list-style-type: none"><li>• Skip-Lot planning</li><li>• Generation of test orders</li><li>• Administration of measuring and test equipment</li><li>• Long-term tests</li><li>• Hygiene and cleaning schedules</li><li>• Employee tests</li><li>• Statistical quality controls</li><li>• Test and conducting of audits</li><li>• Administration of test specifications (limit value tables)</li></ul> | <ul style="list-style-type: none"><li>• Receiving, internal goods movement, production, shipping, lab</li><li>• Mobile</li><li>• Web Interface</li><li>• CCM &amp; CIM applications</li><li>• Interfaces to external analysis devices (external data exchange)</li><li>• Interfaces to external labs (EDI)</li></ul> | <ul style="list-style-type: none"><li>• Automatic determination for individual test instructions, spot checks and test orders</li><li>• Notification in a work list</li><li>• Automatic notification</li><li>• Automatic inventory status</li><li>• Further posting of blocked items not possible</li><li>• SQC (Statistic quality control), control cards</li><li>• Automatic printing (block labels, logs etc.)</li></ul> | <ul style="list-style-type: none"><li>• Evaluations, dashboards</li><li>• Statistical analyses</li><li>• Fully integrated notification in real time</li><li>• Online monitoring</li><li>• Access to QM data from other areas 'batch and lot based' or SSCC based (purchasing, inventory, production, sales)</li></ul> |

# With the CSB Web Apps, operational key figures are permanently available – anytime and everywhere.



Always be up-to-date  
on where your  
company stands

Immediately see  
whether the chosen  
strategy leads to your  
goals



Obtain transparency  
of your value chain

Systematically  
increase the  
productivity of your  
company

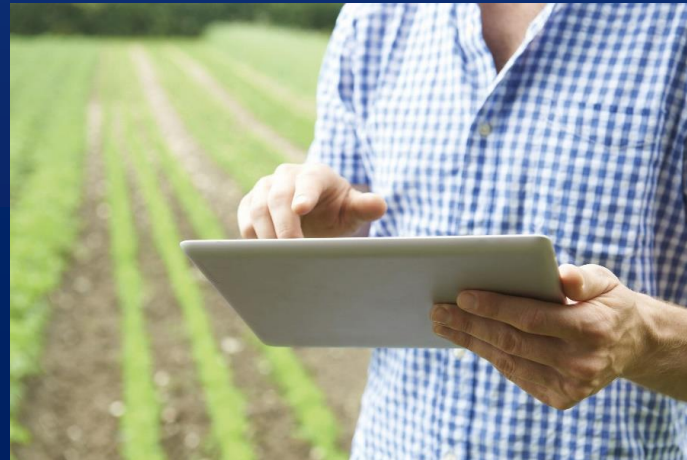
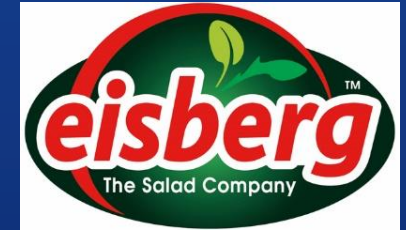


# Traceability & quality management in vegetable manufacturing

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- *Eisberg* Switzerland
- Eisberg Company Group leader in Centrale and East-Europe in Production of salads
- 50 Years old
- Locations in Switzerland, Italy, Poland, Hungary, Romania and Spain



# Practical examples of vertical integration: Swiss retailer: Coop – Bell Group





# Cultivation data entry via web – backward integration



Cultivation  
data  
(Internet)

Goods  
receiving

Raw  
materials  
posting

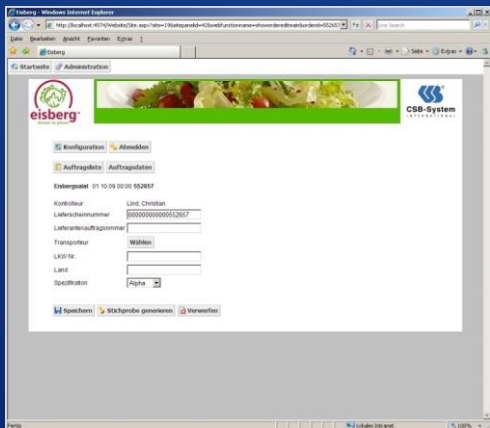
Production  
Semi-finished  
products

Packaging  
Finishing

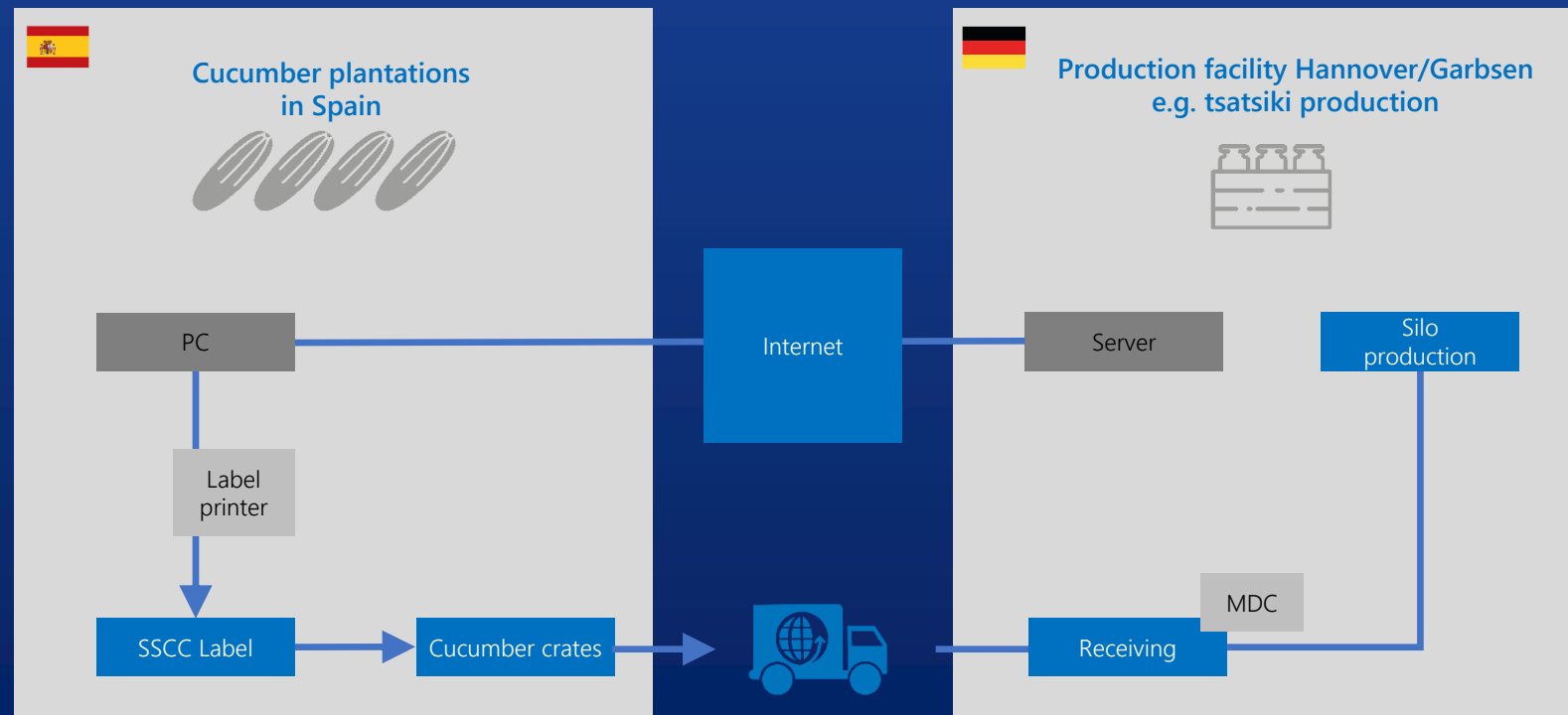
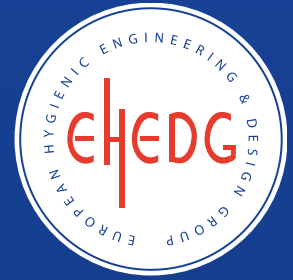
Goods  
shipping

Spot  
checks

Raw material entry



# Vertical integration in practice: Production for Zaziki-Production from Apostels

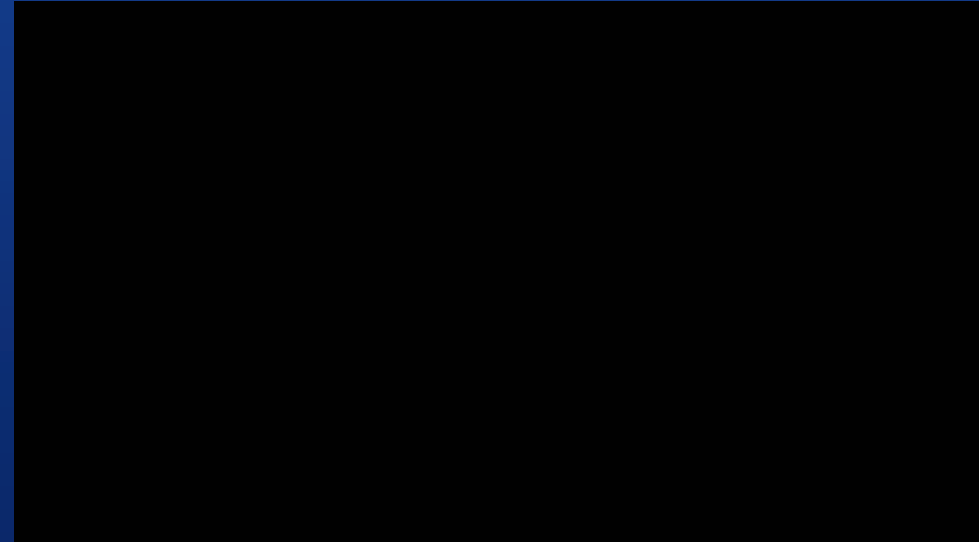
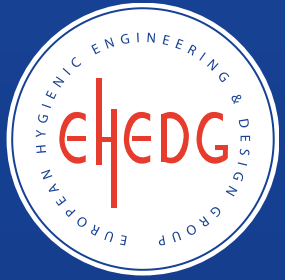


Implementation: Harvest notification and delivery and scanning and quality entry

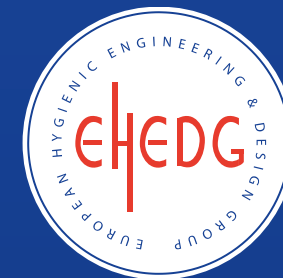
Digitalization / Industry 4.0 enforces the vertical integration

# Impressions from the EISBERG Factory

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# Systematic traceability in the food sector

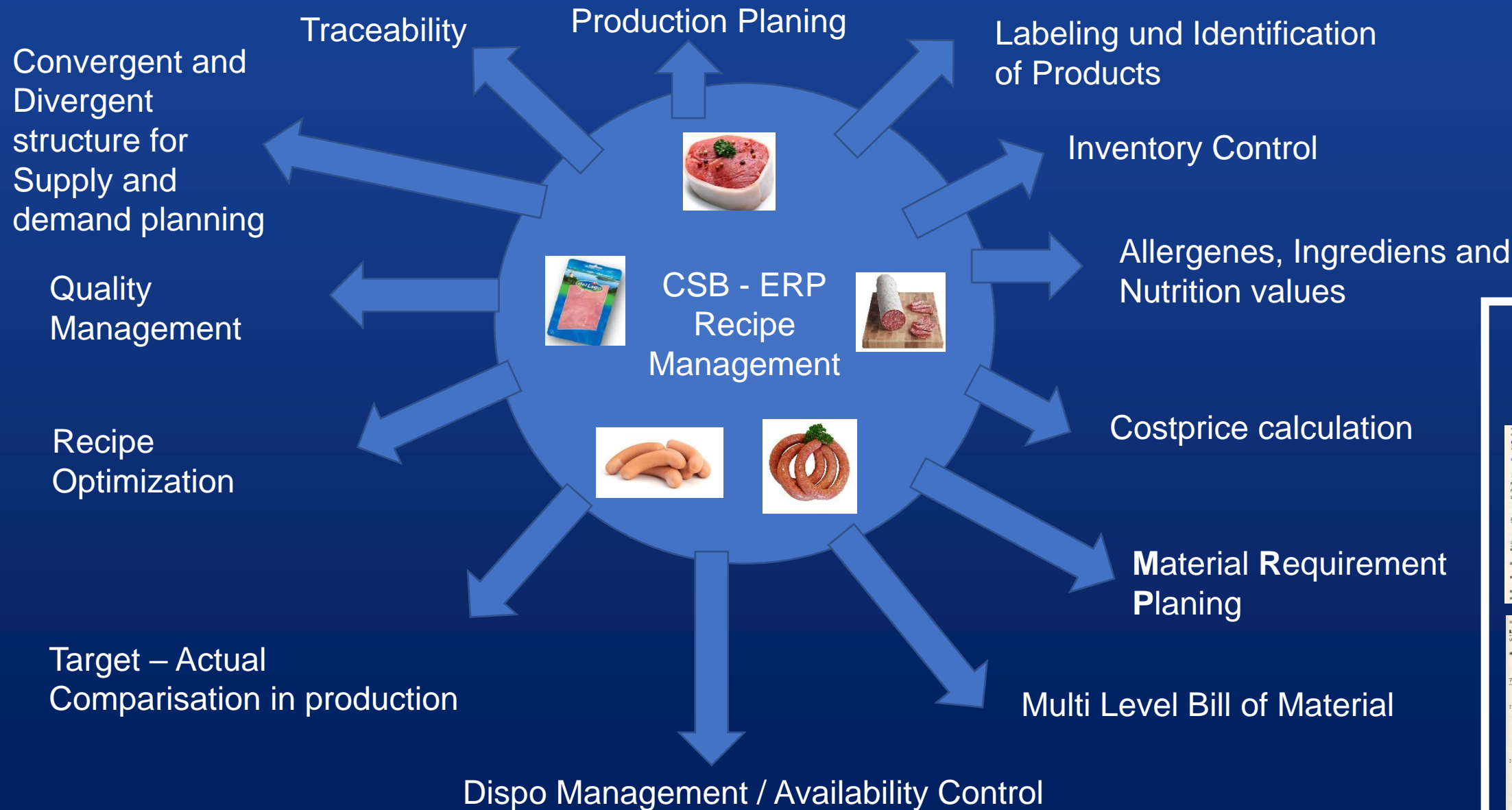


| Area            | Organizational requirements for identifying ...  | Implementation   |
|-----------------|--|--|
| Company         | <ul style="list-style-type: none"> <li>Trading partners</li> </ul>   | <ul style="list-style-type: none"> <li>GS1 GLN, GS1 EAN, GS1 GTIN</li> <li>External lot numbers</li> <li>Address-master data</li> </ul>  |
| Product         | <ul style="list-style-type: none"> <li>Batches with the Batch Information System</li> </ul>  | <ul style="list-style-type: none"> <li>Internal and external lot numbers for identification of ...                             <ul style="list-style-type: none"> <li>items GS1 EAN/GS1 Data-Bar, EPC</li> <li>package NVE/SSCC</li> <li>carriers NVE/SSCC</li> </ul> </li> </ul>    |
| Material/recipe | <ul style="list-style-type: none"> <li>Material/recipe components                             <ul style="list-style-type: none"> <li>allergen code</li> <li>genetically modified foods</li> <li>nutritional value code</li> <li>QUID-requirements</li> </ul> </li> </ul>           | <ul style="list-style-type: none"> <li>Entry of materials/recipes                             <ul style="list-style-type: none"> <li>lot number of the respective material-/recipe component</li> <li>integration of information from BLS (Federal Food Code)</li> </ul> </li> </ul> |
| Process         | <ul style="list-style-type: none"> <li>Quality and environmental management data                             <ul style="list-style-type: none"> <li>Product Carbon Footprint</li> <li>Corporate Carbon Footprint</li> <li>green IT</li> <li>water footprint</li> </ul> </li> </ul> | <ul style="list-style-type: none"> <li>Integration and data management of quality management information                             <ul style="list-style-type: none"> <li>ISO 9000ff</li> <li>IFS, BRC, SQF</li> <li>ISO 14040ff (ecobalance methodology)</li> </ul> </li> </ul>   |
| Efficiency      | <ul style="list-style-type: none"> <li>Operational success factors</li> </ul>  | <ul style="list-style-type: none"> <li>Operational evaluations</li> </ul>  |

Management of the sustainability data's with the traceability tools



# The core of the data-management with ERP: Recipes



Recipe- optimization  
for meat products  
Dr. Peter Schmitzek  
Phd - Aachen 1981

\*\*\*\*\*MODELL: SALAMI\*\*\*\*\*

1. PROBLEMBESTIMUNG

PROBLEM: MINIMIERUNG

PROBLEMDATEN: 10

2. ZIELFUNKTION:

4.201 + 5.132 + 3.155 + 2.794 + 1.705 + 2.116 + 3.107 + 7.200

3. VARIABLENRESTRIKTIONEN:

4.101 + 4.102 + 4.103 + 4.104 + 4.105 + 4.106 + 4.107 + 4.108 + 4.109

5. VARIABLENRESTRIKTIONEN:

4.101 + 4.102 + 4.103 + 4.104 + 4.105 + 4.106 + 4.107 + 4.108 + 4.109

6. VARIABLENRESTRIKTIONEN:

4.101 + 4.102 + 4.103 + 4.104 + 4.105 + 4.106 + 4.107 + 4.108 + 4.109

7. VARIABLENRESTRIKTIONEN:

4.101 + 4.102 + 4.103 + 4.104 + 4.105 + 4.106 + 4.107 + 4.108 + 4.109

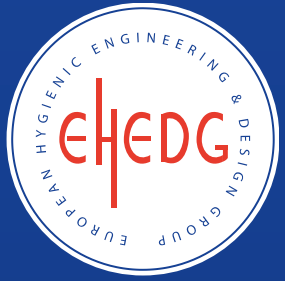
\*\*\*\*\*MODELL: SALAMI\*\*\*\*\*

7. MODELLOESUNG

| VARIABLE           | WERT  |
|--------------------|-------|
| 1) BASIS           |       |
| A) STRUKTURENNAHME | 0.700 |
| B) STRUKTURENNAHME | 0.100 |
| C) STRUKTURENNAHME | 0.100 |
| D) STRUKTURENNAHME | 0.100 |
| E) STRUKTURENNAHME | 0.100 |
| F) STRUKTURENNAHME | 0.100 |
| G) STRUKTURENNAHME | 0.100 |
| H) STRUKTURENNAHME | 0.100 |
| I) STRUKTURENNAHME | 0.100 |
| J) STRUKTURENNAHME | 0.100 |
| K) STRUKTURENNAHME | 0.100 |
| L) STRUKTURENNAHME | 0.100 |
| M) STRUKTURENNAHME | 0.100 |
| N) STRUKTURENNAHME | 0.100 |
| O) STRUKTURENNAHME | 0.100 |
| P) STRUKTURENNAHME | 0.100 |
| Q) STRUKTURENNAHME | 0.100 |
| R) STRUKTURENNAHME | 0.100 |
| S) STRUKTURENNAHME | 0.100 |
| T) STRUKTURENNAHME | 0.100 |
| U) STRUKTURENNAHME | 0.100 |
| V) STRUKTURENNAHME | 0.100 |
| W) STRUKTURENNAHME | 0.100 |
| X) STRUKTURENNAHME | 0.100 |
| Y) STRUKTURENNAHME | 0.100 |
| Z) STRUKTURENNAHME | 0.100 |

# Example: Product tracability with product specifications:

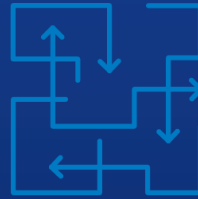
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All information set up in different modules can be made available centrally, also for printing



Errors  
have a price.



A huge amount of data from many  
different departments.



Continuing changes of item data.



All information at the press of a button - it is crucial to have current data and ONE database.



# The Product Specification Cockpit: an overview of all item data



- Selection of the finished product
- Language and address reference
- Preview of the specification

Product specification cockpit

Shift Update Ctrl Printer Selection

Item 106 Apple and Cinamon fruit bar 30g  
Language 21 English (US)  
Address  
Version V3.0 Status

Programs

Item Label Data BOM Ingredients  
Features Match Code Structure Test Plans

Functions

Print Preview Version Comparison

Version history

| Version | Date | Time     | User | Document                  |
|---------|------|----------|------|---------------------------|
| V1.0    |      | 00:00:00 |      | Product specificaties.pdf |
| V2.0    |      | 00:00:00 |      | Product specificaties.pdf |
| → V3.0  |      | 00:00:00 |      | Product specificaties.pdf |

## CSB Branch Bread & Bakery

Item pass: 106 Apple and cinnamon fruit bar 30g

Page 1

### Product description:

Fruity apple enjoyment refined with a hint of cinnamon  
A juicy apple bar that tastes naturally fresh and tasty and has been refined with a hint of cinnamon. Perfect for a snack at work, at school or during leisure time. Individually packed, the fruit bar fits in any bag and is therefore ideal for on the go. If you like apple strudel, you won't be able to get enough of this slice.



### Ingredients declaration:

Dried apple (40%), marzipan (almonds, sugar, glucose syrup, humectant: sorbitol), sultanas, hazelnut, wafers (potato, wheat flour, vegetable oil) cinnamon (1%).

### Allergens contained:

Almonds  
Hazelnut  
Wheat flour

### Instruction for use:

Store cool and dry

### Sensor technology:

Appearance: Yellow brown fruit mass with a fruit stump between oblates  
Taste: Fruity, of apple and marzipan, with a slight hint of cinnamon.  
Aroma: Fruity, of apple, marzipan and cinnamon  
Texture: Soft but firm to the bite, fine fruit pieces

### Nutritional values:

|                               | 100,0 g    | % GDA | per portion a 30,00 gr. | %    |
|-------------------------------|------------|-------|-------------------------|------|
| Energy                        | 1583.0 kJ  | 18.8  | 475.0 kJ                | 5,7  |
| Energy                        | 376.0 kcal | 18.8  | 113.0 kcal              | 5,6  |
| Fat                           | 10.0 g     | 14.4  | 3.0 g                   | 4,3  |
| of which saturated fatty acid | 1.0 g      | 4.9   | 0.3 g                   | 1,5  |
| Carbohydrates                 | 64.0 g     | 24.5  | 19.0 g                  | 7.4  |
| of which sugar                | 64.0 g     | 70.9  | 19.0 g                  | 21.3 |
| dietary fibres                | 7.2 g      | 0.0   | 2.2 g                   | 0.0  |
| Protein                       | 3.9 g      | 7.8   | 1.2 g                   | 2.3  |
| Salt                          | 0.0 g      | 0.6   | 0.0 g                   | 0.2  |

# The Item Master



Items

Edit

Item

60671

60671

Description 1

Salami cut ca. 200g bowl

Extras

Filter

General Data I

General Data II

Units

Extended Data

Sort Groups

PUR Price

SLS Price

REUS

SBD

ID number

60671

Description 1

Salami cut ca. 200g bowl

Salami cut ca. 200g bowl

Description 2

Description 3

Description 4

PORK RAW PROCESSED

Description 5

ACE790

ACE790

Search term

SALAMI CUT

SALAMI CUT 2

Item group

107

Sls/Calc/An.

Product sub-category

670

Raw Sausage

Item Information

Salami cut ca. 200g bowl

Item Image

Navigation

Graph

Item

<

>

⏪

<

>

⏩

# Item Label Data – printing of ingredients lists



- Maintenance of Label-specific data

Item label data (description / ingredients 1)

**Functions**

- 2 Save
- 4 Text Block
- 5 Delete
- 7 Basis
- 9 < Mask
- 10 Screen >
- Shift
- 4 Graphic
- 8 RTF text block
- 9 Ingredients Import
- 10 Update
- Ctrl
- 2 Text blocks

**Edit**

Language: 21 English (US)

Address:

Item: 60671 Salami cut ca. 200g bowl

**Special description**

SALAMI CUT 2

**Ingredients**

|   |   |
|---|---|
| Porc meat, salt, spices, dextrose, glucose syrup, lactose, carrot | 1 |
| Antioxidant, ascorbic acid, preservative, sodium nitrite, smoke.  | 2 |
|   | 3 |
|   | 4 |
|   | 5 |
|   | 6 |

**Item block**

- ☐ Sales
- ☐ Procurement
- ☐ Spec. Procurement
- ☐ Production
- ☐ Inventory

# Bill of material and recipes as a basis for nutritional values



- Entry of raw materials including quantities
- Traceability
- Costing

Bills of Materials & Job Schedules

Functions: 2 Save, 5 Delete, 7 Calculate, 8 Properties, Shift, 1 BOM, 5 Perc.Calc., 7 Items, Ctrl, 2 Tech.Text, 3 Proc. Par., 4 New

BOM: 60671 Salami cut ca. 200g bowl  
Variant: 1 Standard  
Type: Production variant Unit: KT Box  
Cost Center: 4150 Packaging lines

Master Data | Line Item | Process Parameter

60671 / 1 - Salami cut ca. 200g bowl - Stan

- Level 1
  - 59671 - Salami mature / Shell slicer
    - 59701 - Salami cuts
      - % 5510 - Production loss abs.
- Level 2
  - Level 3 [Materials Price]
    - 95253 - Tray for 8 PC
    - 95301 - Ingredients label downside
- Level 4
  - 202 - Packaging specialist
  - 6500 - Packaging Vac
- Level 5 [Cost Price]
  - % 5004 - Fixed costs production
- Level 6
- Level 7 [Break-Even Price]
  - % 5005 - Fixed admin. costs
  - % 5006 - Sales Costs
- Level 8
- Level 9 [Sales Price]
  - % 5007 - Calc. Profit Markup

| Type    | Number | Component                    | Quantity DU | Qty PU     | Quantity in SWU | Item w/o weight | Posting Type |
|---------|--------|------------------------------|-------------|------------|-----------------|-----------------|--------------|
| Level 1 |        |                              |             |            |                 |                 |              |
|         | 59671  | Salami mature / Shell slicer | 24 ST       | 242.000 KG |                 |                 | →            |
|         | 59701  | Salami cuts                  |             | 8.500 - KG |                 |                 | →            |
| %       | 5510   | Production loss abs.         | 0,0000      | 1.5000     | 1               | 0               |              |

| Type | Quantity DU | Qty PU     | Quantity in SWU | Net QTY in SWU |
|------|-------------|------------|-----------------|----------------|
| Σ    | 24 ST       | 242.000 KG | 242.000 KG      | 242.000 KG     |
|      | 0,00        | 0,00       | 0,00            | 5,65           |

New Edit Delete

# Ingredients – automatic or manual calculation



- Every raw material is linked with ingredients
- From the bill of materials, nutritional values and any included allergens are determined

Ingredients allocation

Item/BOM

15001

Pork -Leanmeat I

Variant

Edit

Basis

1,000

KG

Units

Filter

Cont Groups

Ingredients

All

Nutrit. Values

Ingredients

Allergens

System Ingredients

10 CO2 footprint

200 INGREDIENTS

300 -- Combined ingredients --

400 -- Spiece --

500 -- Meat --

50001 Pork

600 SPICES

700 Aromas

900000 System ingredients

900000 Meat Protein

900002 Bold

900003 Total Water

900005 Absolute CPFMP

900006 CPFMP in Meat Protein

900008 CP Absolute

900009 CP in Meat Protein

900001 System ingredients

920000 Nutritional values

920001 Nutri-Score

930001 Antioxidants

930002 Raising agents

930003 Emulgator

930004 Colorant

930005 Firming agent

930006 Humectant

930007 Filler

930008 Geling agent

930009 Flavor enhancer

930010 Complexing agent

930011 Preservative

Ingredient

Qty

CO2 footprint

INGREDIENTS

-- Combined ingredients --

-- Spiece --

-- Meat --

Pork

100,00

%

SPICES

Aromas

System ingredients

Meat Protein

20,00

%

Bold

5,00

%

Total Water

75,00

%

Absolute CPFMP

19,00

%

CPFMP in Meat Protein

95,00

%

CP Absolute

1,00

%

CP in Meat Protein

5,00

%

System ingredients

Nutritional values

Nutri-Score

Antioxidants

Raising agents

Emulgator

Colorant

Firming agent

Humectant

Filler

Geling agent

# Ingredients – automatic or manual calculation



- Every raw material is linked with ingredients
- From the bill of material, nutritional values and any included allergens are determined

The screenshot shows a software window titled 'Ingredients'. On the left is a sidebar with a 'Functions' menu containing options like 'Save', 'Delete', 'Print', 'Text', 'Shift', 'Language', 'Copy', and 'Update'. The main area displays the 'General Data' tab for an ingredient. Fields include 'Ingredient No.' (20204), 'BLS' (empty), 'Day Name' (empty), and 'Description' (Peanuts). Below these are tabs for 'General Data', 'extended', and 'Sort Groups'. The 'General Data' section contains fields for 'FIR descripti' (Peanuts), 'Allergen description' (empty), 'Additional Description' (empty), 'Ingredient Group' (200), 'Unit' (%), 'Price Unit' (empty), 'Recommended Day Quantity' (0.00 %), 'Labeling required' (always), 'Allergens' (checked), 'Code Text' (empty), 'Formula' (empty), and 'GS1 Code' (empty). Navigation buttons (K, <, >, >I) are at the bottom right.



# Matchcodes – secure management of links



- Administration of matchcodes per item/address/unit

Item Matchcode

Shift

5 Matchcode Type

10 Update

Address

Sample Customer

Configure

| Item  | Unit               | GTIN           | GTIN-ID |
|-------|--------------------|----------------|---------|
| 95201 | Top film shoulder  | 952019         |         |
| 94005 | NDC+PAL 23         | 4012345940053  |         |
| 10051 | Peperami 5x22.5g   | 4251097405391  |         |
| 10052 | Heinz Beanz        | 5000157065223  |         |
| 11041 | P-Filet VAC        | 90000000110412 |         |
| 60612 | Should of pam ca.  | 90000000606120 |         |
| 65110 | beef olive 2pc pac | 90000000651106 |         |
| 12010 | P-top side         | 94012345120106 |         |
| 60650 | Lyoner whole       | 94012345606501 |         |

External Item (GTIN)

21345678908987

Salami Tesco

Internal Item

60671

Salami cut ca. 200g bowl

Unit

GTIN-ID

Additional Number

Product variant

Consumer unit

GTIN consumer unit

Conv. SLS

KG /KRT

KT

Conv. PUR

KG /PC

ST

Inactive

OK

# Cost Unit Accounting – calculation of Bill of material



- Bill of material
- Component control

Flexible Product Costing

Bill of Materials: 60671 Salami cut ca. 200g bowl  
Variant: 1 Standard  
Unit:   
☐ Cross Company  
Variant Determination: Active Variant  
Reference Date: We 30.03.22  
☐ Fully explode BOM  
☐ Consider virtual (sub) BOM

Buttons: Version, Inactive, Legend

Struct

- 60671 - Salami cut ca. 200g bowl
  - 59671 - Salami mature / Shell slicer
    - 59670 - Salami filled
      - 58670 - Salami meat
        - 57671 - Meat mix salami fresh
          - 21702 - B-II Lean meat of the Haunch
          - 21703 - B-III Lean meat of the Shoulder
          - 15003 - P-III Lean meat of the Shoulder
          - 15004 - P-IV Lean meat of the Belly
          - 90101 - Water
          - 300 - Weigh meat
          - 950 - Floor scale
          - % 5510 - Production loss abs.
        - 57673 - Spice Mix Salami
          - 90160 - Rotblock Turbo
          - 90051 - Superba
          - 90162 - Garlic Extra
          - 301 - Weigh spices
          - 955 - Table scale
          - 90002 - Nitrite curing salt
          - 15001 - Pork - Lean meat I
          - 300 - Weigh meat
          - 950 - Floor scale
          - 94001 - Fibre intestine 60/50
          - 95211 - Clips (1000 pcs in box)
        - % 5506 - Ripening loss
        - 95213 - Foil for salami
        - 95301 - Ingredients label downside
        - 304 - Smoking help
        - 4000 - Smoking chamber 1
        - % 5002 - Variable production costs
        - % 5004 - Fixed costs production
        - % 5005 - Fixed admin. costs
        - % 5006 - Sales Costs
        - % 5007 - Calc. Profit Markup
        - 59701 - Salami cuts
        - % 5510 - Production loss abs.
        - 95253 - Tray for 8 PC

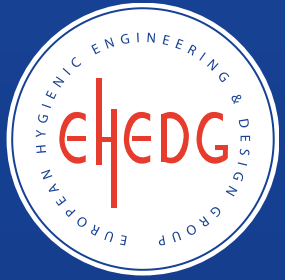
Components Control

| BOM | Var. | Act | Version | Description |
|-----|------|-----|---------|-------------|
|-----|------|-----|---------|-------------|

45 Objects

No. of Bills of Material : 0

# Quality Management – overview of all allocated test plans



Test Plan Allocation

Functions

- 2 Search
- 4 Extended
- 5 Delete
- 8 Print
- 9 AutoInt
- Shift
- 2 Continue Search
- 8 Master Data Print
- 9 Text
- 10 Update
- Ctrl
- 3 Spec. plan
- 7 Layout
- 8 Printer

Data Basis

Item

Search allocation

|   | Item  | Description      | Cost Center | Address | Test Pl. | Test Pl.              | Pos. | Pos. | Sample no. | No. of Labels | Resting tir |
|---|-------|------------------|-------------|---------|----------|-----------------------|------|------|------------|---------------|-------------|
| → | 15001 | Pork -Leanmeat I |             |         | 500      | Goods reception check |      |      |            |               |             |
|   | 21010 | B-Beef halve     |             |         | 500      | Goods reception check |      |      |            |               |             |

Add allocation Copy line Test plan Limit values Activate interval checks

Add test point Delete line Interval plan Hide test points Delete interval samples

# Maintenance of packaging data for recycling in example: "Grüner Punkt" – Duales System (DSD) etc.



- Allocation of the packaging group
- Additional: Information for reduction packaging material

Packaging Data

Ctrl

8 Printer

Item 60671 Salami cut ca. 200g bowl

Entry

| Association |   | Packaging Group | Validity Interval   | Pack. Charge | Regist. St.  |
|-------------|---|-----------------|---------------------|--------------|--------------|
| 1 DSD       | 1 | Meat Salami     | 00.00.00 - 99.99.99 | 0,00000015   | 0 w/o Status |

Association 1 DSD

Packaging Group

Message Status 0 w/o Status

Valid from - to

OK

# Data Cockpit: Versioning – dependable history of data



- Entry of specification versions
- Changes are highlighted in the preview

Product specification cockpit

Shift  
10 Update  
Ctrl  
8 Printer Selection

Item: 60671 Salami cut ca. 200g bowl  
Language: 21 English (US)  
Address:  
Version: V1.2 Status:

Programs

Item Label Data BOM Ingredients HAZMAT  
Features Match Code Structure Test Plans Packaging data

Functions

Print Preview Version Comparison Export Log

Version history

| Version | Date | Time     | User | Document                   |
|---------|------|----------|------|----------------------------|
| V1.0    |      | 00:00:00 |      | Product specifications.pdf |
| V1.1    |      | 00:00:00 |      | Product specifications.pdf |
| → V1.2  |      | 00:00:00 |      | Product specifications.pdf |

Create new version

Functions

Function keys are not visible.

Version number: V2.0  
Description:  
valid from: Su 01.01.23 Valid to: 99.99.99

OK Cancel

# Examples

- Definition of the product specification (individual datasheet)
- Which evaluations should be included in the product passport?
- Merging of the previously mentioned data

Product Specifications

Functions

- 2 Save
- 4 Start Evaluation
- 5 Delete
- 10 Text
- Shift
- 4 Language
- 6 Settings
- 9 Rights
- 10 Update
- Ctrl
- 7 Layout Selection
- 8 Printer Selection

Evaluation Number 3 **Product data sheet**

Edit

General Selection

Item 60671 - 60671

Item List

Address -

Language 21 English (US)

Layout 1 Product Specification

Extended selection Start Screen ☐

|   | Program |                         | Layout |                    |  |
|---|---------|-------------------------|--------|--------------------|--|
| → | 312     | Print Item Lists/Labels | 333    | Produktpass        |  |
|   | 198     | Item Labels Data        | 473    | Artikeldaten       |  |
|   | 365     | Ingredients calculation | 90002  | Nährwertberechnung |  |

Program 312 Print Item Lists/Labels Evaluation

Special Selection

Language

Update external





## CSB Branch Bread & Bakery

Item pass: 106 Apple and cinnamon fruit bar 30g

Page 1

**Product description:**

Fruity apple enjoyment refined with a hint of cinnamon  
A juicy apple bar that tastes naturally fresh and tasty and has been refined with a hint of cinnamon. Perfect for a snack at work, at school or during leisure time. Individually packed, the fruit bar fits in any bag and is therefore ideal for on the go. If you like apple strudel, you won't be able to get enough of this slice.



**Ingredients declaration:**

Dried apple (40%), marzipan (almonds, sugar, glucose syrup, humectant: sorbitol), sultanas, hazelnut, wafers (potato, wheat flour, vegetable oil) cinnamon (1%).

**Allergens contained:**

Almonds  
Hazelnut  
Wheat flour

**Instruction for use:**

Store cool and dry

**Sensor technology:**

Appearance: Yellow brown fruit mass with a fruit stump between oblates  
Taste: Fruity, of apple and marzipan, with a slight hint of cinnamon.  
Aroma: Fruity, of apple, marzipan and cinnamon  
Texture: Soft but firm to the bite, fine fruit pieces

**Nutritional values:**

|                               | 100,0 g    | % GDA | per portion a 30,00 gr. | %    |
|-------------------------------|------------|-------|-------------------------|------|
| Energy                        | 1583.0 kj  | 18.8  | 475.0 kj                | 5,7  |
| Energy                        | 376.0 kcal | 18.8  | 113.0 kcal              | 5,6  |
| Fat                           | 10.0 g     | 14.4  | 3.0 g                   | 4,3  |
| of which saturated fatty acid | 1.0 g      | 4.9   | 0.3 g                   | 1,5  |
| Carbohydrates                 | 64.0 g     | 24.5  | 19.0 g                  | 7.4  |
| of which sugar                | 64.0 g     | 70.9  | 19.0 g                  | 21.3 |
| dietary fibres                | 7.2 g      | 0.0   | 2.2 g                   | 0.0  |
| Protein                       | 3.9 g      | 7.8   | 1.2 g                   | 2.3  |
| Salt                          | 0.0 g      | 0.6   | 0.0 g                   | 0.2  |

# Steering & control of product development

- Workflow for data collection and release
- Development and test calculation

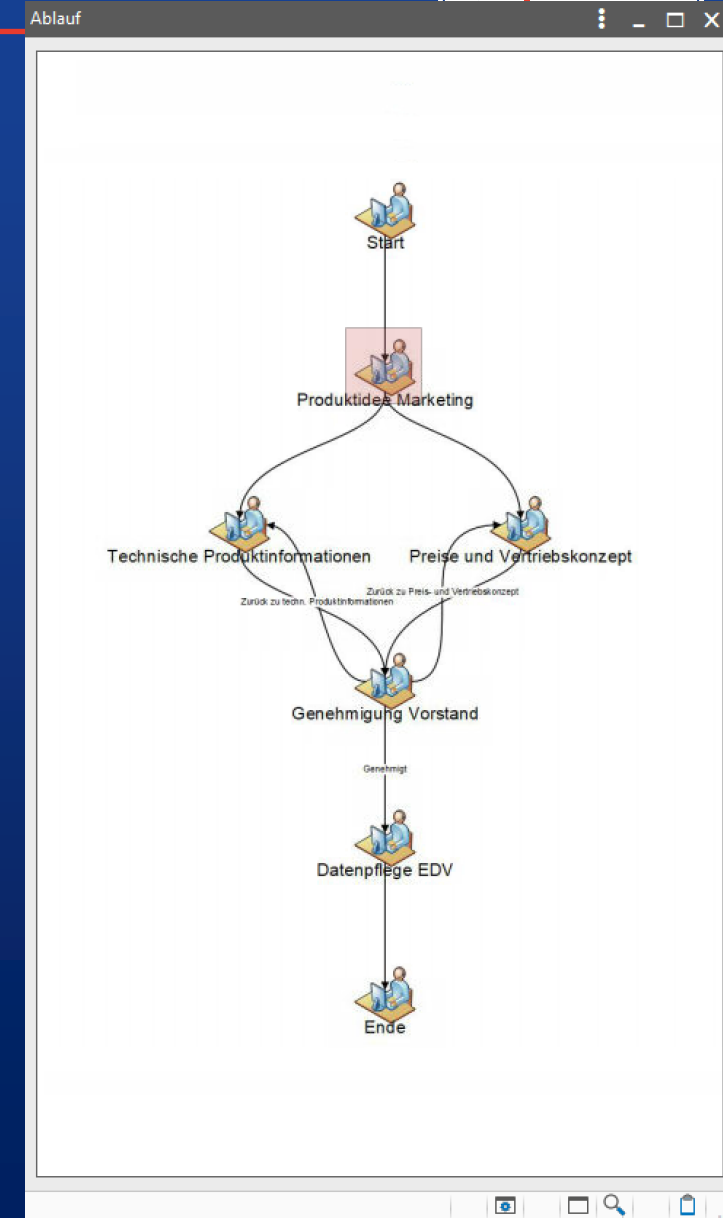
Development/Test Calculation

Functions: Save, Hide, Delete, Calculate, Print, Prices, Shift, BOM, Tech. Text, Techn. new, Procedure, Ing. Conf., Nutr. val., Ctrl, MasterData, Item Images, Item Information, Test spec., Layout, Select Printer

Test Number: 606710001 11.02.2020 09:20:07  
Total Quant: 230,000 KG  
Unit Calculation: 230,000 KG

Buttons: Calcul., Prices, Setting

| BOM   | Description                     | Component Q       | Total Qty  | Batch Size |
|-------|---------------------------------|-------------------|------------|------------|
| 60671 | Salami cut ca. 200g bowl        | KG 230,000        | KG 230,000 | KG 230,000 |
| 59671 | Salami mature / Shell slicer    | 240,000 KG        | 240,000 KG | 240,000 KG |
| 59670 | Salami filled                   | 300,000 KG        | 300,000 KG | 300,000 KG |
| 58670 | Salami meat                     | 300,000 KG        | 300,000 KG | 300,000 KG |
| 57671 | Meat mix salami fresh           | 290,000 KG        | 100,000 KG | 90,000 KG  |
| 21702 | B-II Lean meat of the Haunch    | 20,000 KG         | 6,90       | 2,82 4,50  |
| 21703 | B-III Lean meat of the Shoulder | 30,000 KG         | 3,00       | 3,00 3,00  |
| 15003 | P-III Lean meat of the Shoulder | 20,000 KG         | 3,72       | 3,72 2,95  |
| 15004 | P-IV Lean meat of the Belly     | 20,000 KG         | 2,55       | 2,55 2,60  |
| 90101 | Water                           | 10,000 L          | 0,05       | 0,05 0,05  |
| 300   | Weigh meat                      | 18,00 18,00 18,00 | 0,000      |            |
| 950   | Floor scale                     | 30,00 30,00 30,00 | 0,000      |            |
| 5510  | Production loss abs.            | 0,0000 2,3000 1 0 |            |            |
| 57673 | Spice Mix Salami                | 3,800 KG          | 3,800 KG   | 3,800 KG   |
| 90160 | Rotblock Turbo                  | 1,400 KG          | 0,00       | 0,00 0,00  |
| 90051 | Superba                         | 1,000 KG          | 1,00       | 1,00 1,00  |
| 90162 | Garlic Extra                    | 1,400 KG          | 2,00       | 2,00 2,00  |
| 301   | Weigh spices                    | 18,00 18,00 18,00 | 0,000      |            |
| 955   | Table scale                     | 30,00 30,00 30,00 | 0,000      |            |
| 90002 | Nitrite curing salt             | 8,500 KG          | 0,25       | 0,26 0,00  |
| 15001 | Pork -Leanmeat I                | KG                | 3,85       | 3,85 3,90  |



# Web App Supplier portal to enter product specifications.



CSB Workflow App

Hoofdmenu

Documentensturing: 173 - Enter Specs

Later doorgaan

Afsluiten

Abbreken

Informatiebladen

✓ Informatieblad: 1 Enter Specs

Enter Specs

|                           |   |  |              |
|---------------------------|---|--|--------------|
| Supplier no.              | <div><div></div>Supplier no.</div>              |  | <div>+</div> |
| Item no.                  | <div><div></div>Item no.</div>                  |  | <div>+</div> |
| Ingredients 1             | <div><div></div>Ingredients 1</div>             |  | <div>+</div> |
| Ingredients 2             | <div><div></div>Ingredients 2</div>             |  | <div>+</div> |
| Ingredients 3             | <div><div></div>Ingredients 3</div>             |  | <div>+</div> |
| Allergens 1               | <div><div></div>Allergens 1</div>               |  | <div>+</div> |
| Allergens 2               | <div><div></div>Allergens 2</div>               |  | <div>+</div> |
| Allergens 3               | <div><div></div>Allergens 3</div>               |  | <div>+</div> |
| Allergens 4               | <div><div></div>Allergens 4</div>               |  | <div>+</div> |
| Nutritional Value 1       | <div><div></div>Nutritional Value 1</div>       |  | <div>+</div> |
| Nutritional Value 2       | <div><div></div>Nutritional Value 2</div>       |  | <div>+</div> |
| Nutritional Value 3       | <div><div></div>Nutritional Value 3</div>       |  | <div>+</div> |
| GTIN Nummer               | <div><div></div>GTIN Nummer</div>               |  | <div>+</div> |
| Aantal dagen Houdbaarheid | <div><div></div>Aantal dagen Houdbaarheid</div> |  | <div>+</div> |
| Contact person            | <div><div></div>Contact person</div>            |  | <div>+</div> |
| Job title                 | <div><div></div>Job title</div>                 |  | <div>+</div> |

Dokumente

Deutsch

British english

US english

Nederlands

Français

Italiano

Español

Русский

Polski

Norsk

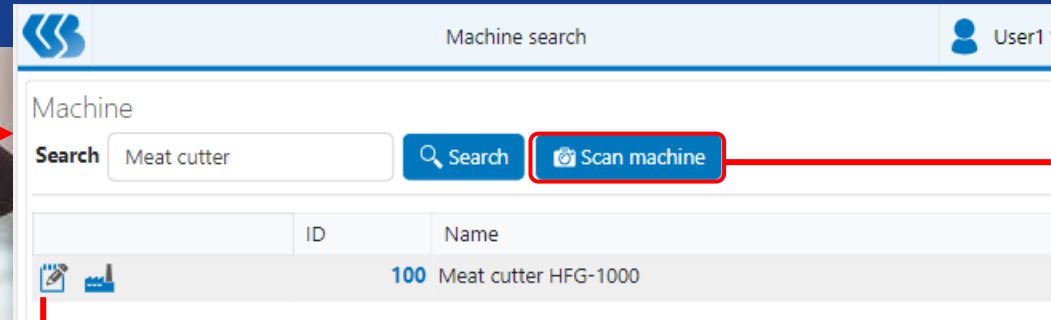
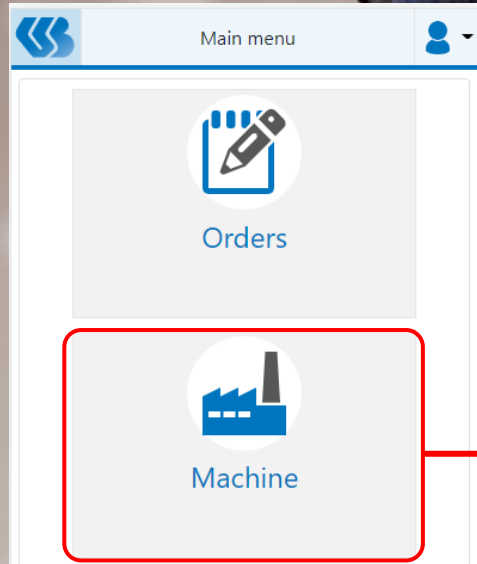
Svenska

Dansk

# Maintenance Control:



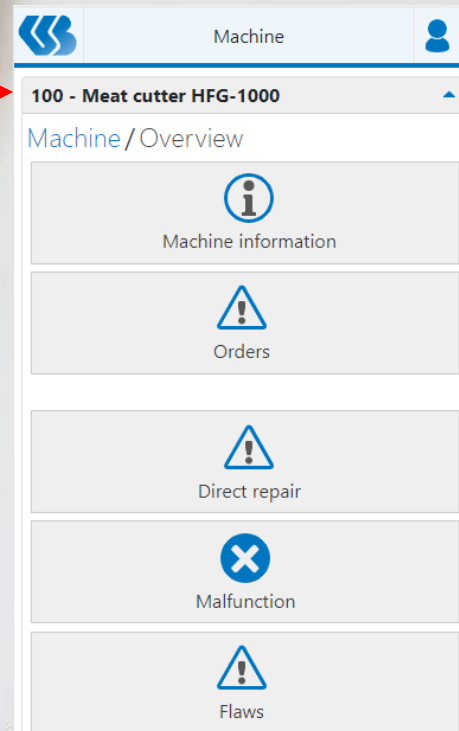
All required details can easily & immediately be retrieved, any time



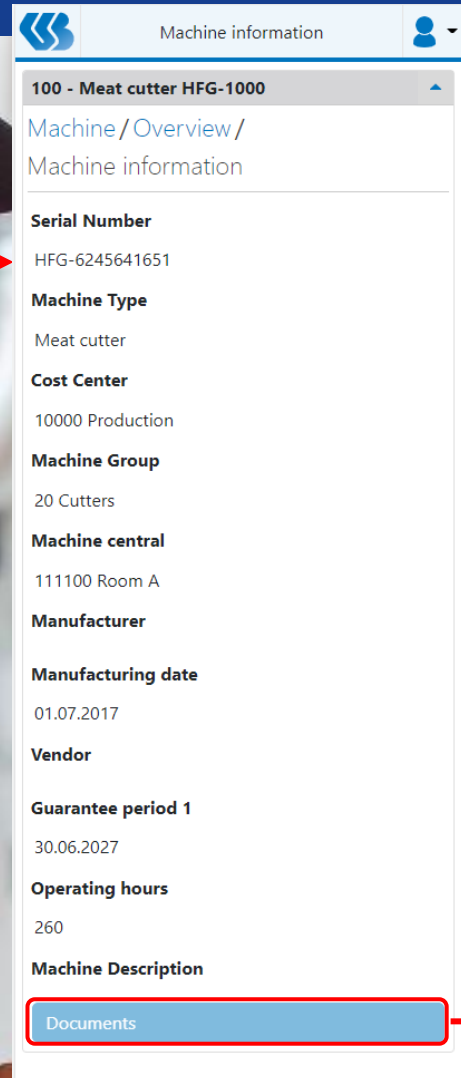
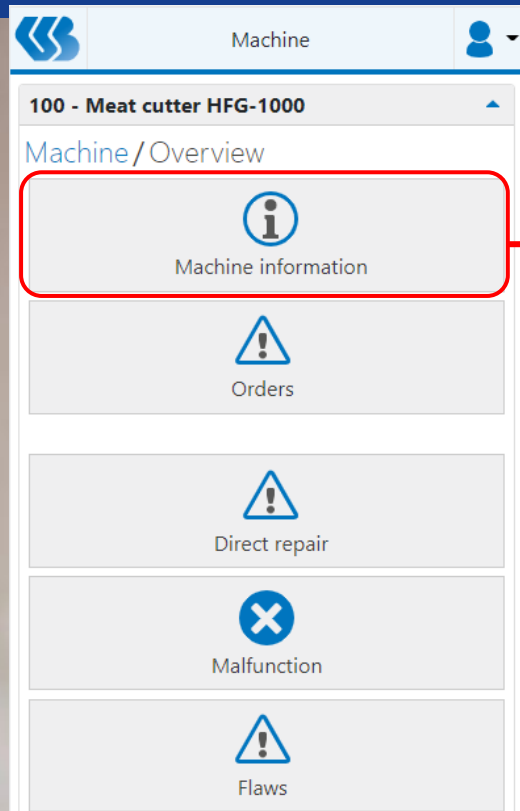
Search for machines by their names or call them by scanning the machine's QR code

## All machines at a glance

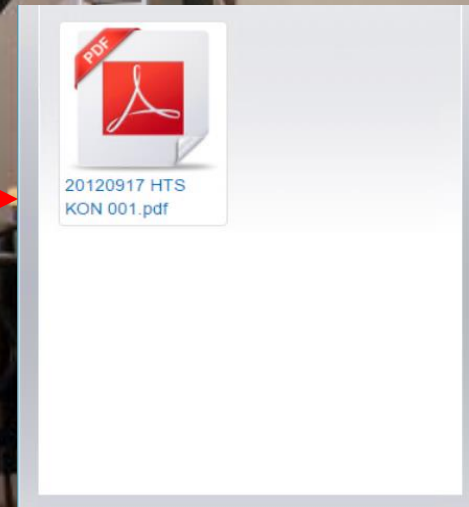
Access a list of all machines including key data with a single click



# All required details can easily & immediately be retrieved, any time

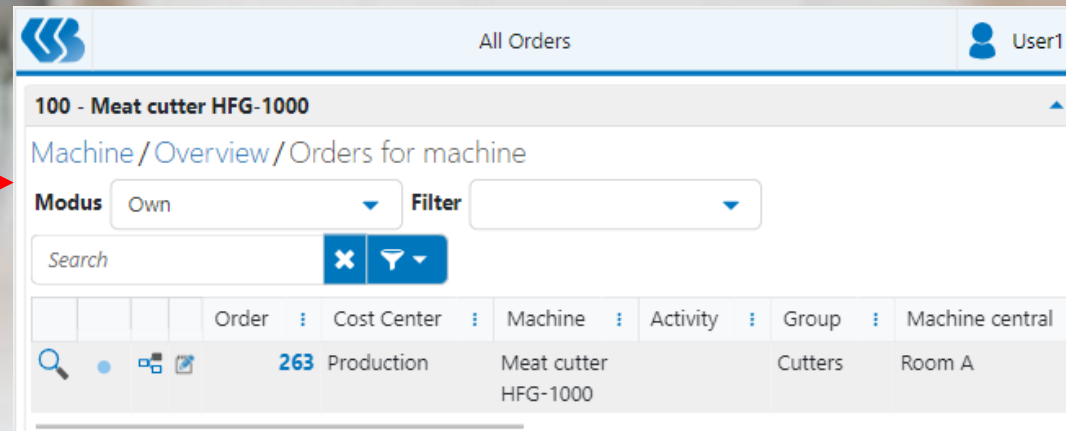
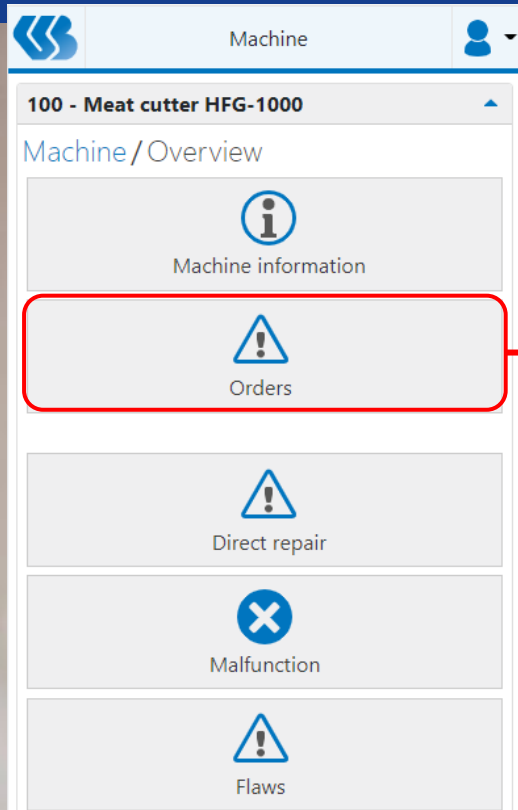


All **machine details** can be called - additionally, you can attach optional documents





# Fast and flexible order processing at machine level

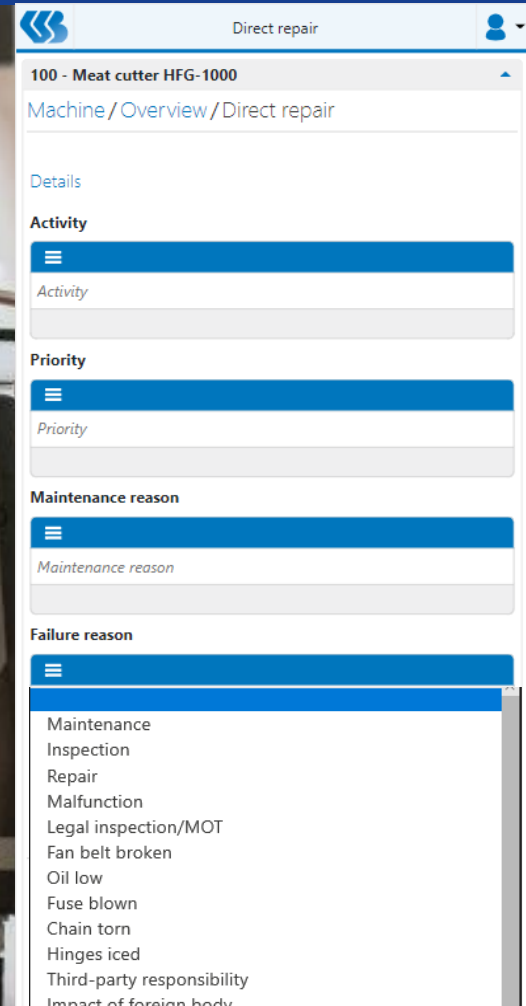
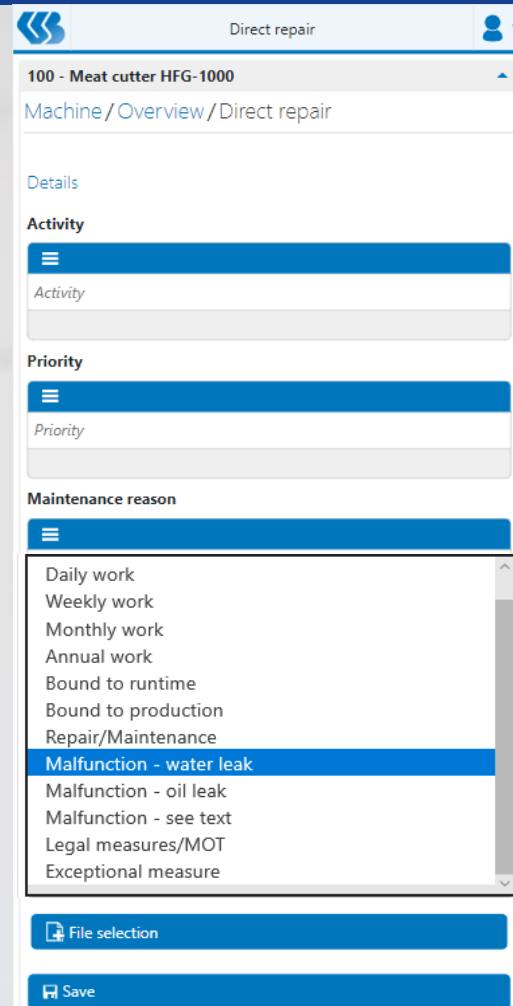
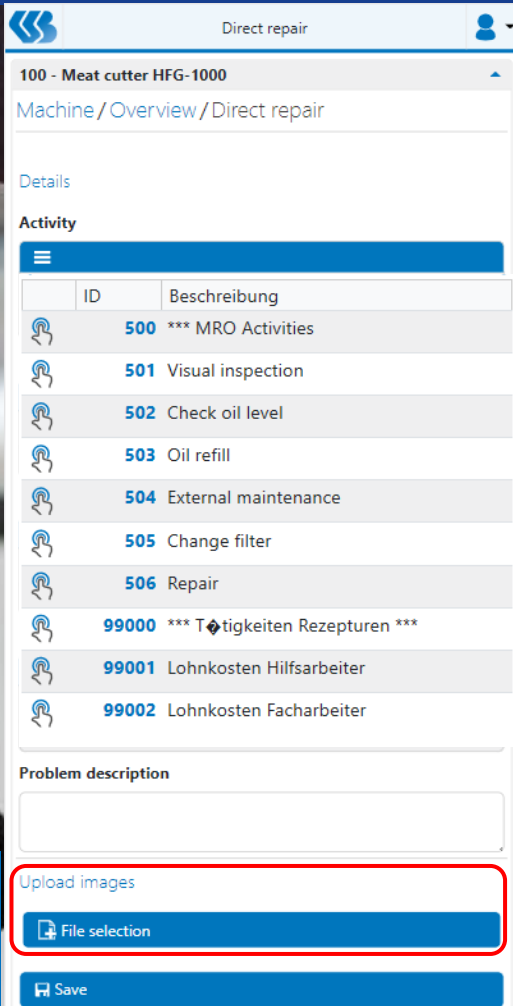
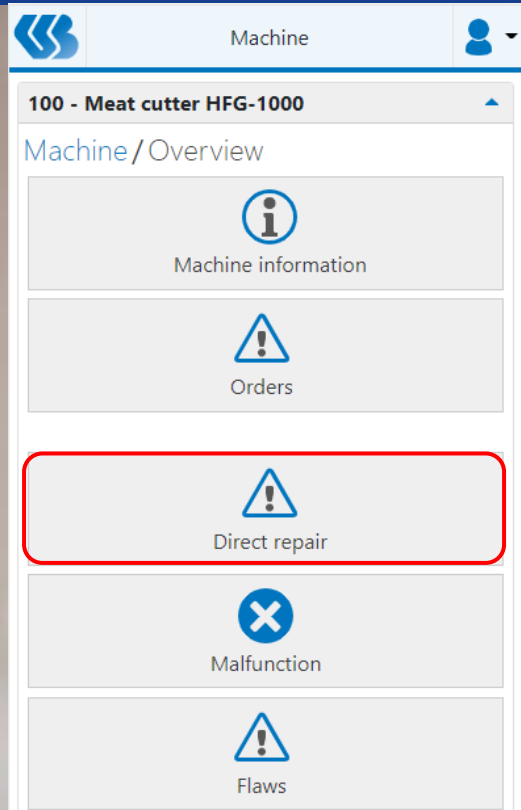


**Keep track of everything!**

An overview of all orders for any machine is provided at the press of a button.



# In example a problem in the plant: Direct repair at the machine handling including management of all informations



Time saved through direct repairs

Selection options in drop-down lists allow  
efficiency-enhancing direct repairs

# Entry and elimination of malfunctions including reporting



Machine

100 - Meat cutter HFG-1000

Machine / Overview

Machine information

Orders

Direct repair

**Malfunction**

Flaws

Malfunction

100 - Meat cutter HFG-1000

Machine / Overview / Malfunction

Details

Activity

500 \*\*\* MRO Activities

501 Visual inspection

502 Check oil level

503 Oil refill

504 External maintenance

505 Change filter

506 Repair

99000 \*\*\* Tätigkeiten Rezepturen \*\*\*

99001 Lohnkosten Hilfsarbeiter

99002 Lohnkosten Facharbeiter

Failure reason

Problem description

Upload images

File selection

Save

Malfunction

100 - Meat cutter HFG-1000

Machine / Overview / Malfunction

Details

Activity

Priority

Maintenance reason

Daily work

Weekly work

Monthly work

Annual work

Bound to runtime

Bound to production

Repair/Maintenance

Malfunction - water leak

Malfunction - oil leak

**Malfunction - see text**

Legal measures/MOT

Upload images

File selection

Save

Malfunction

100 - Meat cutter HFG-1000

Machine / Overview / Malfunction

Details

Activity

Priority

Maintenance reason

Failure reason

Maintenance

Inspection

Repair

Malfunction

Legal inspection/MOT

Fan belt broken

Oil low

Fuse blown

Chain torn

Hinges iced

Third-party responsibility

Impact of foreign body

Maloperation

Impurity

Debris

(Need for action with high priority)

Selection options in drop-down lists allow fast registration and elimination of malfunctions

# Entry and management of defects *including reporting*



Machine

100 - Meat cutter HFG-1000

Machine / Overview

Machine information

Orders

Direct repair

Malfunction

Flaws

## Simplified entry of defects

(Need for action with low priority)

Selection options in drop-down lists allow fast entry and processing of **defects**

Flaws

100 - Meat cutter HFG-1000

Machine / Overview / Flaws

Details

Activity

Malfunction  
Accident risk  
Preventive action  
Danger potential  
Assistance to production  
Elimination of weak spots  
Downtime work  
Other routine work  
Improvement work  
Other rationalisation work

Failure reason

Failure reason

Problem description

Upload images

File selection

Save

Flaws

100 - Meat cutter HFG-1000

Machine / Overview / Flaws

Details

Activity

Priority

Maintenance reason

Daily work  
Weekly work  
Monthly work  
Annual work  
Bound to runtime  
Bound to production  
Repair/Maintenance  
Malfunction - water leak  
Malfunction - oil leak  
Malfunction - see text  
Legal measures/MOT

Upload images

File selection

Save

Flaws

100 - Meat cutter HFG-1000

Machine / Overview / Flaws

Details

Activity

Priority

Maintenance reason

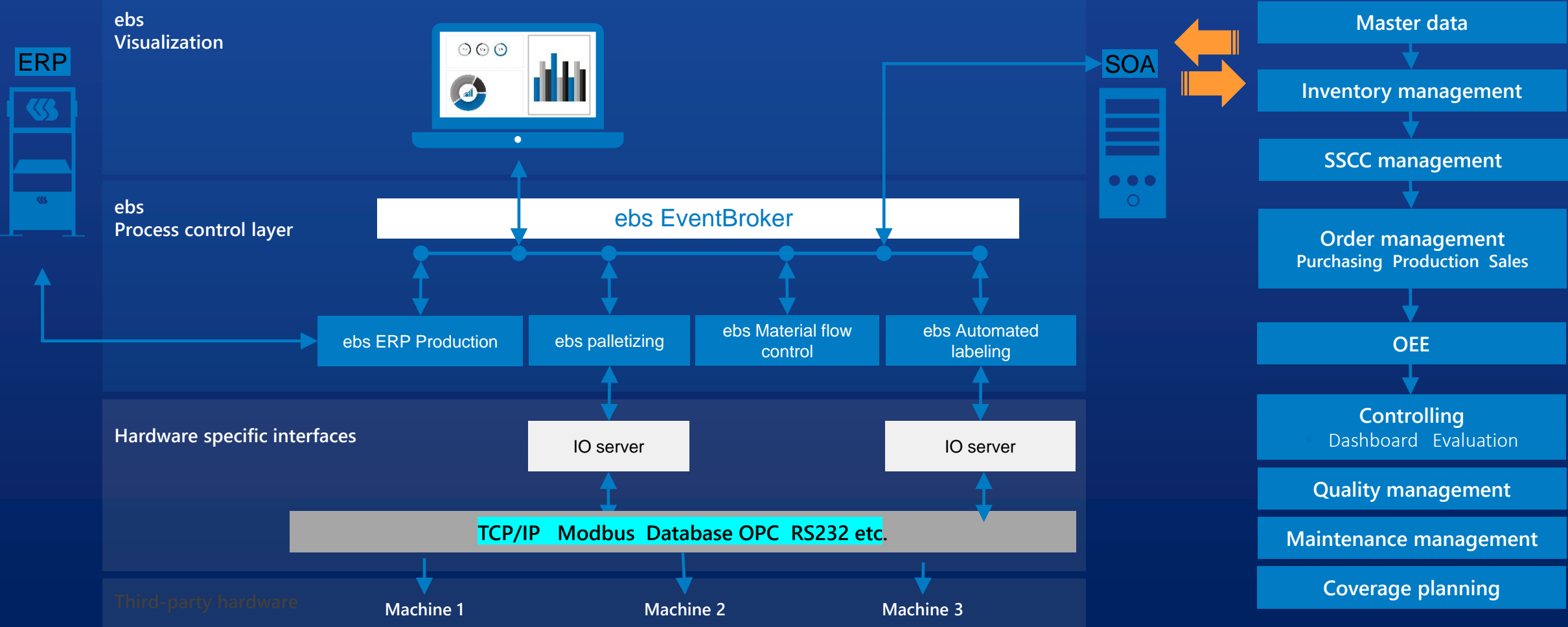
Maintenance reason

Failure reason

Maintenance  
Inspection  
Repair  
Malfunction  
Legal inspection/MOT  
Fan belt broken  
Oil low  
Fuse blown  
Chain torn  
Hinges iced  
Third-party responsibility  
Impact of foreign body  
Maloperation  
Impurity  
Debris  
Icing

Save

# Interface technology (Event Based Service) integrates the intralogistics processes & machines - an overview



# CSB-Route Management offers various functionalities for efficient route planning and sustained cost reduction.



## Route planning & optimization

taking into account  
customer, time and  
vehicle constraints

## Navigation

of the driver &  
visualization of the  
route

## Entry

of returns and empties  
on an MDC device



## Recording

of route data, e. g. driven  
distance, refrigeration  
temperature, opening of  
loading doors



# There are many reasons why customers count on ERP-System with Quality Management and traceability solutions.

---



Full integration of all corporate units into one cross-functional quality management system



Consideration of all national and international norms, directives, standards and laws



Increase process and product quality



Data management for environmental labels



Integrated provision of required descriptions of your business processes



# Advantages of ERP-System based on Quality Management and traceability solutions – the impact of digitalization.



Organization of a high compliance level



Reducing the risks for recalls



Platform to integrate machine data's for more requirements from legislation and certification



Platform for company internal & external connectivity



“You know your company, so take control of your company, which you can develop your company”

# Impact of digitalisation on traceability, quality management



Thank you very much  
for your attention !

For questions: Dr. Klemens van Betteray  
Vice President



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