

structura



The ERP solution for
Plastics processing

Scope Of Features

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structura – The ERP solution for Plastics processing

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structura – The ERP solution for Plastics processing**1 General introduction**

structura is a modern software solution, especially designed for process production. It covers all business areas starting with sales and production planning up to procurement. **structura** uses the modern user interface, based on the Windows Standard, as the client/server system.

structura was developed for usage in medium-sized to group-sized companies. The system is multi-client capable.

structura is internationally competent. Parallel working in multiple languages and different currencies eases the co-operation in the era of globalization.

structura is a modular structured system. This structure enables a user-oriented application, which is highly customizable to every customer's needs.

structura support a comprehensive report system base on the different modules.

structura is high-performing. The system support the user with a high-performing data base system and integrated text management an list generators, resulting in an easy operation despite it's high complexity.

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2 structura module overview



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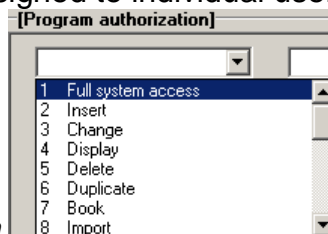
3 System administration

Comprehensive, customer-specific and system-overarching features are an integrated part in the *System Administration* module.

Access rights management

For guaranteeing the necessary transparency and system security, **structura** offers management of individual users and user groups.

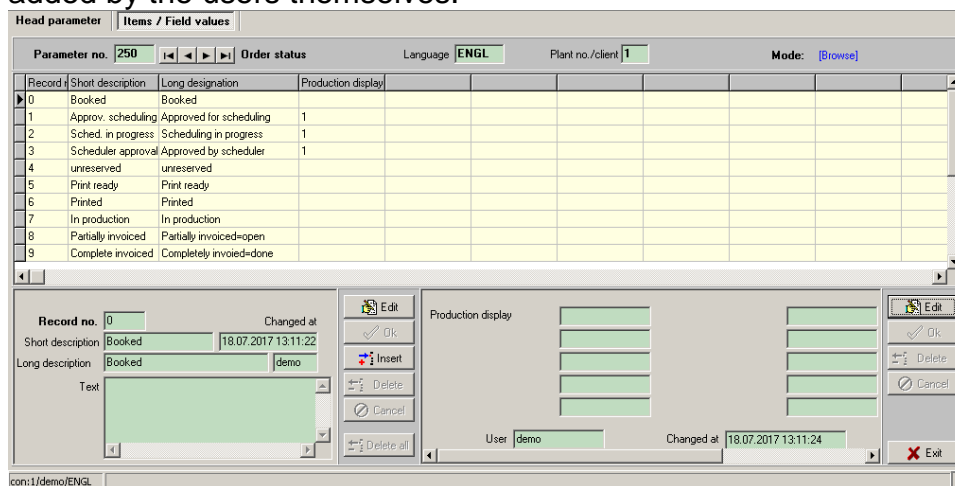
Access rights can be specifically assigned to individual users or user groups for



modules and programs in **structura**.

Parameter management

All daily business processes can be managed by using the so-called "**FIP**" parameters (**F**oundry **I**ntegrated **P**arameters), which are customer-oriented. By populating data fields, customer requests can be managed and incorporated without the need of extensive programming effort. Parameters can also be changed and added by the users themselves.



Document management

Internal and external documents and files (e.g. pictures, technical drawing, MS-Office and PDF files) can be attached and saved using the *Document management system*. Further information see Chapter 7 Document management.

4 Sales

All business areas are involved and business processes handled on the system level in the *Sales* module, starting with customer inquiry, quotation work and order processing up to invoicing. *Sales* communicates with *Production planning and control* for scheduling and *Product planning* for the costing of quotations and orders.

Scope of features

- Quotation management
- Order management
- Dispatch management with dispatch papers and the management of empties
- Invoicing
- Credit note management
- Complaint management
- Up to date customer master data
- Up to date of representative master data
- Price tables and standard prices
- Commission accounting
- Collection of form design layouts for company-heads (can be integrated)
- Evaluation and reports (with possible future additions)
- Comprehensive information system with connection to other modules
- EDI
- Quantity variants

Customer master data dialogues

Comprehensive information can be entered and created in the *Customer master data*.

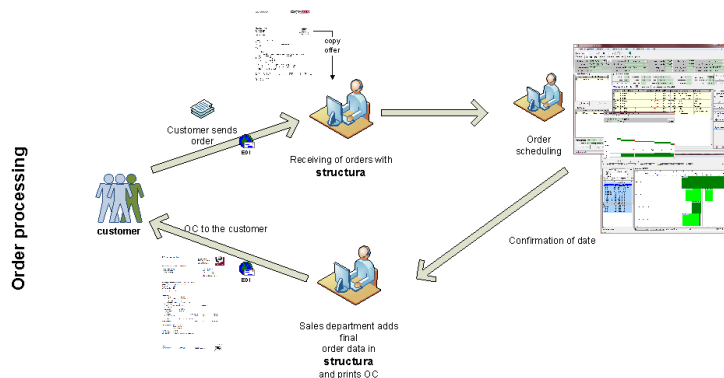
The creation of multiple addresses (invoices address, delivery address etc.) and contacts can be done in a practical way, as well as the pre-determination of costing data and the management of customer-specific price tables.

The data created in the *Customer master data* is transferrable and can be used in all the other modules of **structura**.

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Order management

Process of booking of orders, check of schedule and order confirmation



Example route of receiving orders, checking of schedules and order confirmation

Individual and framework orders can be managed in **structura**.

In accordance with customer's procurement order a planned order is created in the **structura** system. Customer number and procurement order date and others, are basic data that is entered in the order header data. Each article of equipment of an order gets an own order item assigned. Order items contain, among other things, the requested quantity of articles, the requested date and the confirmed delivery date.

The following shows a few example dialogues of the order managing process in **structura**. Example dialogues for scheduling are covered in chapter *Production planning*.

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Order management in an example

STRUCTURA expert - Demo - [10 Auftragsverwaltung]

Module:

Overview | Order Header Data | Order Item

Header data: Order no. 11-02236, Status, High Priority

Item data: Selection, Order type, Status

Mess. max. moulding no.

| Order no. | Customer no. | Short name | Order No. | Entry at | Purchasing Da | Entry at | Print date set | Print date | Price | Our Reference | Status of Order | User |
|-----------|--------------|-----------------|-----------|------------|---------------|------------|----------------|------------|------------|---------------|--------------------|-------|
| 11-02236 | R-0100 | RGU Expert GmbH | 4711.000 | 27.09.2014 | 27.09.2014 | 27.09.2014 | 27.09.2014 | 27.09.2014 | 0-undefine | | 8 Auftrag teilsakt | amold |

| Item | Art.-no | Pattern no. | Description | Gross weight | Type of order | Quantity order | Quantity deliv | Quantity invoiced | Unit | Status | Call-off order | Call-off order |
|------|---------|-------------|----------------------|--------------|------------------------|----------------|----------------|-------------------|------|-----------|--------------------|----------------|
| 1 | R-99999 | 4711 | 7785/06/14- Soventol | | 1 FE Fertigungsauftrag | 1000 | 500 | 500 | 500 | st=undefi | 8 Auftrag teilsakt | 0=undefiniert |

[SQL]

ID: 1/demo/ENGL | Übersicht

Overview of created orders

STRUCTURA expert - Demo - [10 Auftragsverwaltung]

Module:

Overview | Order Header Data | Order Item

Order no. 11-02235, RGU Expert GmbH, Status 0 Booked, Mode: [Browse]

General | Delivery/Invoice | Text

[Text module]

Introduction text, Footer text, Greeting text, Attach. text, Language Deutsch

Assigning pre-defined text blocks

Input of individual internal and external texts

[Internal text]

[External text]

Further details of technical nature have to be communicated before production. We will do the equipment costing afterwards.

Weitere technische Details müssen zur Herstellung der Werkzeuge müssen Sie uns noch mitteilen.

Wir werden Ihnen dann umgehend die Werkzeugkosten mitteilen.



Edit, OK, Repeat, Internal text, External text, Delete int. text, Delete ext. text, Exit

con: 1/demo/ENGL

Order header- Possible input of pre-defined text blocks and internal/external texts

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Print of order confirmation

| | | | | | |
|---|--|--|------------|---|--|
| RGU expert GmbH | | RGU expert GmbH Schweinfurterstrasse 25 97080 Würzburg Telefon: +49 (0) 931 / 30980 - 0 Telefax: +49 (0) 931 / 30980-22 e-mail: info@rguexpert.de Homepage: www.rguexpert.de | |  | |
| RGU expert GmbH - Schweinfurterstrasse 25 - D-97080 Würzburg RGU expert GmbH To the attention of 1003.001 Würzburg | | Your contact: Mustermann, Max Tel.: Fax: EMail: | | | |
| Order confirmation No. 16-AB00007 from 16.08.2017 Your purchase order : from 02.08.2017 Customer no. : 1003 Supplier no. : 10101 Dear Sir or Madam, , | | | | | |
| <hr/> Item: 001 / FE Our article number : 123456789 Our article designation : Test cylinder Your article number : Test cylinder Your article designation : Cylinder for testing Equipment no. : 987456321 Material / Norm : Plums Delivery weight/pieces : 558,00 kg Delivery condition : Raw casting Packaging : Pallet cage | | | | | |
| <hr/> Dates : | | | | | |
| Order volume | | net | EUR | 0,00 | |
| <hr/> Delivery address : RGU expert GmbH Würzburg Transport : Transport company Delivery term : free of charge exclud. packaging Terms of payment : 14 days3% 30 days net This document was created electronically and is legal without signature. | | | | | |
| Seite 1 von 1 | | | | | |
| Banken Volksbank Würzburg BLZ 654 922 00 Konto-Nr. 2 054 370 | | Sparkasse Würzburg BLZ 654 522 90 Konto-Nr. 07-002 978 | | Geschäftsführer: Stefan Thron Amtsgericht Würzburg HRB 701671 Ust.-IdNr. DE 257304457 | |
|  | | | | | |

Delviery notes, Invoices, Credit notes, Complaints

The creation of delivery notes, invoices and credit notes is based on the order data.

An interface for transferring invoices and credit notes to Finance and Accounting software can be created for any such software.

Capturing and evaluation of internal/external complaints with multiple defect reasons is also part of the **structura** system.

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| | | | |
|--|--|---|--|
| Recipient RGU Expert GmbH D-97076 Würzburg | | Unloading area/Storage/ Application key S | |
| Deliver not no. 11003304  | | Supplier | |
| Customer article no. 4711  | | Net weight 33 | Gross weight 92,7 |
| | | Qty. of packages 1 | |
| Filling qty. 1500 ST  | | Bezeichnung Lieferung, Leistung Display zum Präsentieren | |
| Supplier no. R-00001  | | Customer packaging no. Europalette M1 0002 r  | |
| Package no. 164  | | Date D 140717 | Construction revision 23.06.14 |
| | | Batch no. | |

Example of a VDA-Label (Packaging slip)

5 Product planning

Work and method plans are the base data for costing and production planning and are managed here in the module called *Product planning*.

A method plan will always be created without reference to a production order.

Work and method plans list and describe the necessary work steps and sequences for the production of the article.

Characteristics, like weight and overall production time, will then get assigned to each article for costing.

Scope of features of *Product Planning*

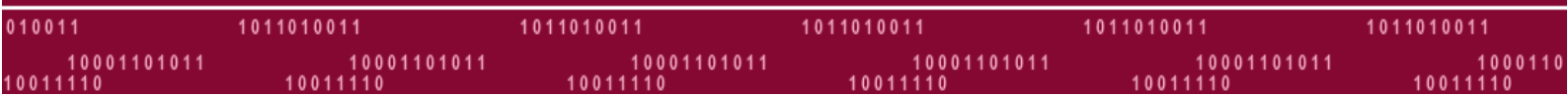
- Master data for work steps, for machines and machine groups, pattern and equipment management
- Deep knowledge data base, characteristics, tables and formulas
- Article master data including characteristics and technical specifications
- Method plans and characteristics
- Article master card
- Quotations for costing
- Orders for scheduling
- Management of technical drawings
- Pattern and equipment master data
- Pattern and equipment for costing

Article master data

All necessary data for costing and working documents are created in the *Article master data*.

Existing technical drawings plus revision can be attached for each article in a document history, for which a document management system can be used.

The *Article master data* also allows for entering instructions, technical specifications and internal/external texts.



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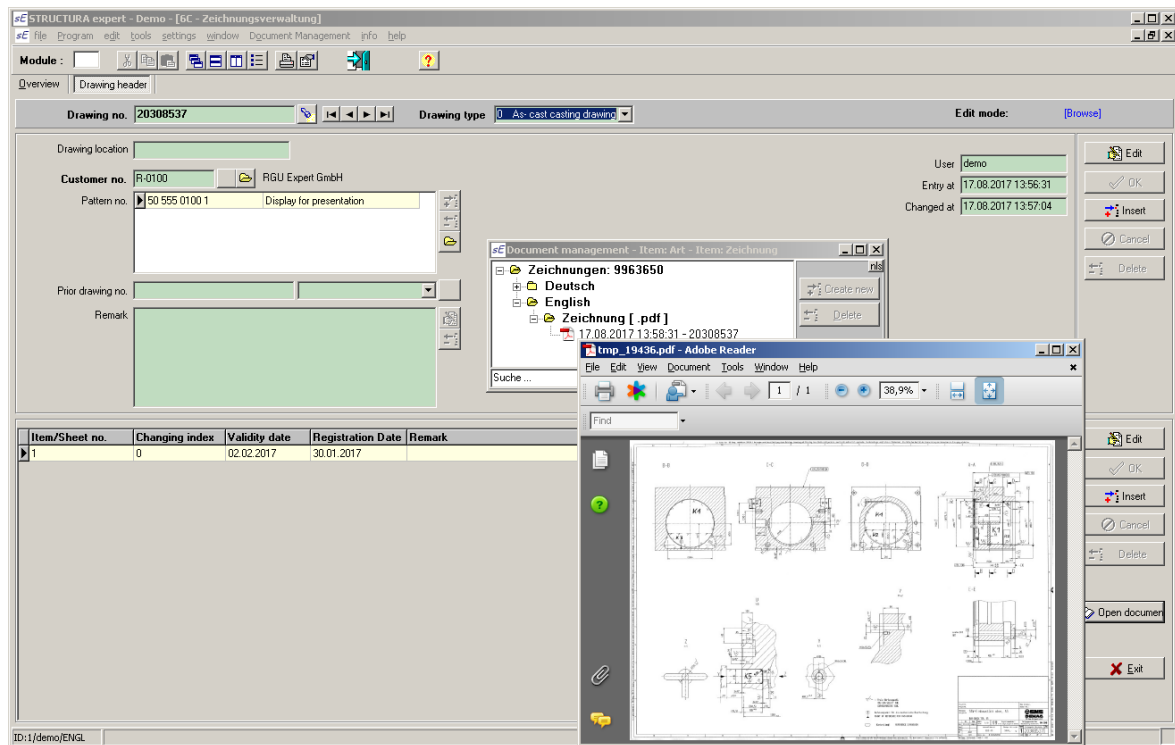
Print preview of costing

| Costing - Sales | | RGU expert GmbH | | Costing date : 26.09.2014 18:01:58 | | | |
|----------------------------------|---------------------------------|---------------------|------------------|------------------------------------|-------------|------------------|--|
| Article no. + variant | R-302 / std | Validity date costs | | 26.09.2014 | | | |
| Designation | 776506/14 BA-Soen | | | | | | |
| Pattern no. | 0000 | | | | | | |
| Customer article no. | 4711 | | | | | | |
| Customer | R-0100 RGU Expert Gmb | | | | | | |
| Material | R-0001 PS transparent | | | | | | |
| Drawing no. + Revision | 001-1009R 0 | | | | | | |
| Delivery weight | 0,0398 | | | | | | |
| Gross weight | 0,0398 | | | | | | |
| Moulding line | general | | | | | | |
| Article family | general | | | | | | |
| Lot size | 600 | | | | | | |
| Lot size set up | 600 | | | | | | |
| Classification | | | | | | | |
| Colour | white | Length | 126 mm | | | | |
| Material thickness | 1,0 mm | Width | 234 mm | | | | |
| <u>Work/Mat.</u> | <u>Designation</u> | <u>Machine</u> | <u>Qty./time</u> | <u>Setup time</u> | <u>Unit</u> | <u>Cost rate</u> | <u>Prop. costs</u> <u>Total costs</u> |
| 10809 | Holzklste 1196x1196x610 mm IPPC | | 1,00 | | piece | 70,00 | 70,00 70,00 |
| Sub total 00 - Material | | | | | | | 70,00 70,00 |
| R-0105 | | R-103 | | 100,00 | min | 1,60 | 0,27 0,27 |
| R-0004 | | R-103 | 12,00 | | min | 1,50 | 18,00 18,00 |
| Sub total 04 - Forge/Draw | | | | | | | 18,27 18,27 |
| R-0104 | | R-100 | | 45,00 | min | 0,58 | 0,04 0,04 |
| R-0001 | | R-100 | 10,00 | | min | 0,58 | 5,83 5,83 |
| R-0104 | | R-101 | | 30,00 | min | 0,58 | 0,03 0,03 |
| R-0002 | | R-102 | 10,00 | | min | 0,58 | 5,83 5,83 |
| R-0003 | | R-104 | | | min | 1,08 | |
| R-0003 | | R-104 | 0,60 | | min | 1,08 | 0,65 0,65 |
| Sub total 10 - Mechanical | | | | | | | 12,38 12,38 |
| Total | | | | | | | min 100,65 100,65 |
| Scrap | 0,00 % von | | 94,82 | | EUR | 0,00 | 0,00 |
| Total production costs | | | | | | | 2528,89 2528,89 100,65 100,65 |
| Total origin costs | | | | | | | 2528,89 100,65 100,65 |
| Material margin | 3,00 % of | | 70,00 | | EUR | | 2,10 |
| Machining margin | 5,00 % of | | 30,65 | | EUR | | 1,53 |
| Cash discount | 2,00 | | 104,28 | | EUR | | 2,13 |
| Costing price | | | | | | | EUR / piece 106,41 |

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Drawing management

Different types of technical drawings (As-cast drawing, finished part drawing, pre-machined drawing..) and their revisions for articles can be managed and documented in the *Drawing management*.



Drawing management

Pattern management

The management of all important equipment data, like number of cavities, interchangeable inserts, number of shots can be entered in the *Pattern management*. A equipment number is assigned to each article.

The *Pattern management* also allows for documenting all transactions, like changes, repairs and maintenance.

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STRUCTURA expert - Demo - [71 - Modellverwaltung]

File Program edit tools settings window Document Management info help

Module:

Overview Pattern master Pattern item

Pattern no. 50 555 0100 1 Display for presentation Editing mode: [Edit]

[Overview - Positions]

| Item | Article no. | Description | Alternative description | Limit mould no. | Mouldings | Entry at | Changed at | User | Pattern active |
|-------|----------------|--------------------------|--------------------------|-----------------|-----------|---------------------|---------------------|------|----------------|
| ▶ 001 | M-00017841/001 | Display for presentation | Display for presentation | 10000 | 950 | 17.08.2017 10:20:28 | 17.08.2017 10:20:28 | demo | 1 Yes |

Items Transaction

Item no. 001 Inhouse pattern no. M-00017841/001 User demo

Description Display for presentation Limit mould no. 10000 Entry at 17.08.2017 10:20:28

Alternative description Display for presentation Total mouldings 950 Changed at 17.08.2017 10:20:28

Marking 50 555 0100 1 Perc. of mouldings [%] 0

Construction mat. 3001 Die-Steel Pattern plate type 0002 Plate G II

Pattern status 0010 Pattern ready Bottom no. Top no.

Pattern active 1 Yes Time for pattern making 0

Pattern storage location 0001 none Plate no. 5

Core box storage locat. 0001 none No. nests/mould 5

No. mould joints 0 Storage area (sm) 0

Loose parts 0

Gates 0

Gauge 0

Core boxes 0

Template 0

Last pattern transaction

Date Reason

Buttons: Edit, OK, Insert, Discard, Delete, Exit

ID:1/demo/ENGL

Equipment item data

STRUCTURA expert - Demo - [71 - Modellverwaltung]

File Program edit tools settings window Document Management info help

Module:

Overview Pattern master Pattern item

Pattern no. 50 555 0100 1 Display for presentation Editing mode: [Browse]

[Overview - Positions]

| Item | Article no. | Description | Alternative description | Limit mould no. | Mouldings | Entry at | Changed at | User | Pattern active |
|-------|----------------|--------------------------|--------------------------|-----------------|-----------|---------------------|---------------------|------|----------------|
| ▶ 001 | M-00017841/001 | Display for presentation | Display for presentation | 10000 | 950 | 17.08.2017 10:20:28 | 17.08.2017 10:22:31 | demo | 1 Yes |

Items Transaction

[Overview - Transactions]

| Date | Reason | Remark | Entry at | Changed at | User |
|------------|-----------------|--------------------------|---------------------|---------------------|------|
| 17.08.2017 | Pattern blocked | Blocked for testing only | 17.08.2017 10:22:31 | 17.08.2017 10:22:31 | demo |

Buttons: Edit, OK, Insert, Discard, Delete, Exit

ID:1/demo/ENGL /Modellpositionen

Equipment transaction documentation



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STRUCTURA expert - Demo - [70 - Werkzeugverwaltung]

File Program edit tools settings window Document Management info help

Module:

Overview Pattern master Equipm.item/similar equipm.

Equipment no. 50 555 0100 1 Display for presentation Editing mode: [Browse]

[Overview - Items]

| Item | Article no. | Variant | Active | Description | Alternative description | Limit mould no. | Mouldings | Entry at | Changed at | User | |
|------|-------------|----------------|--------|-------------|--------------------------|--------------------------|-----------|----------|---------------------|---------------------|------|
| ▶ | 1 | M-00017841/001 | No | Yes | Display for presentation | Display for presentation | 10000 | 950 | 17.08.2017 10:20:28 | 17.08.2017 10:20:28 | demo |

Item data Transaction Machine allocation Costing cost block

[Machine allocation]

| Machine no. | Description | Text |
|-------------|-------------------|---------|
| ▶ KS-004 | Injection machine | Display |

[Edit]

Editing mode: [Edit]

Machine no. KS-004 Injection machine

Text Display

Entry at 17.08.2017 10:26:57

Changed at 17.08.2017 10:26:57

User demo

Buttons: Edit, OK, Insert, Discard, Delete, Exit

ID:1/demo/ENGL

Allocation of machines to equipment

structura – The ERP solution for Plastics processing**6 Production planning**

The base of *Production planning* module is the method plan, which is created in the Product planning module. In the *Production planning* module production orders are generated from incoming sales order. Production can be generated manually, if needed.

Each production order gets a production work plan, on the basis of the method plan, assigned. A production lead time can be calculated incorporating utilization and parallel work steps.

Feedback of each work step in production then lowers the utilization of production.

Scope of features

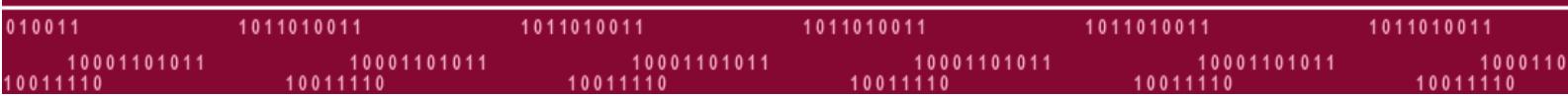
- Shift calenders
- Capacity utilization
- Graphical display of the utilization profile
- Management of production lots
- Management of production orders
- Printing of working documents
- Work step feedback
- Scrap management and evaluation
- Import and processing of PDC (**P**roduction **D**ata **C**apturing)
- Feedback information

Capacity management

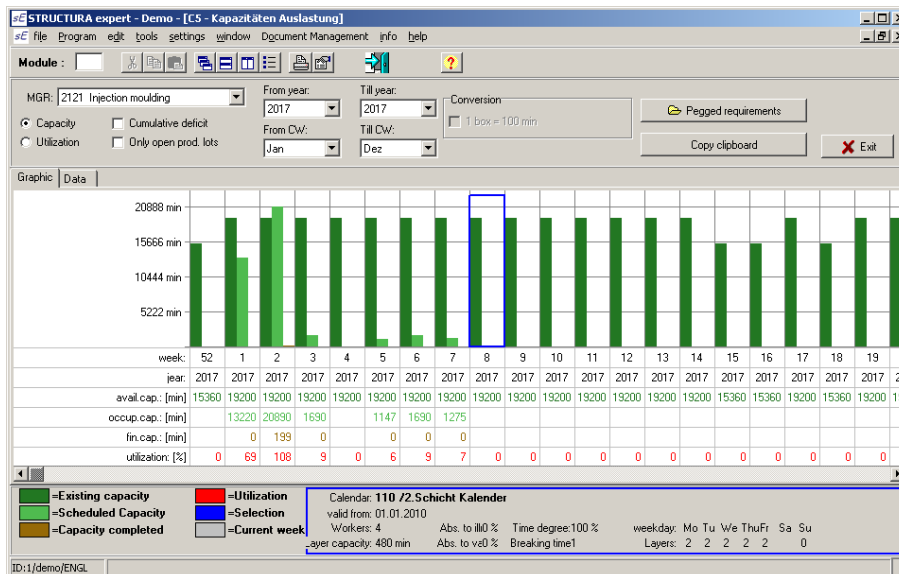
Comprehensive planning of existing machine and personnel capacity results in a detailed scheduling of production orders, which is all managed in *Capacity management*.

Scheduled capacity is shown for a time period of one week.

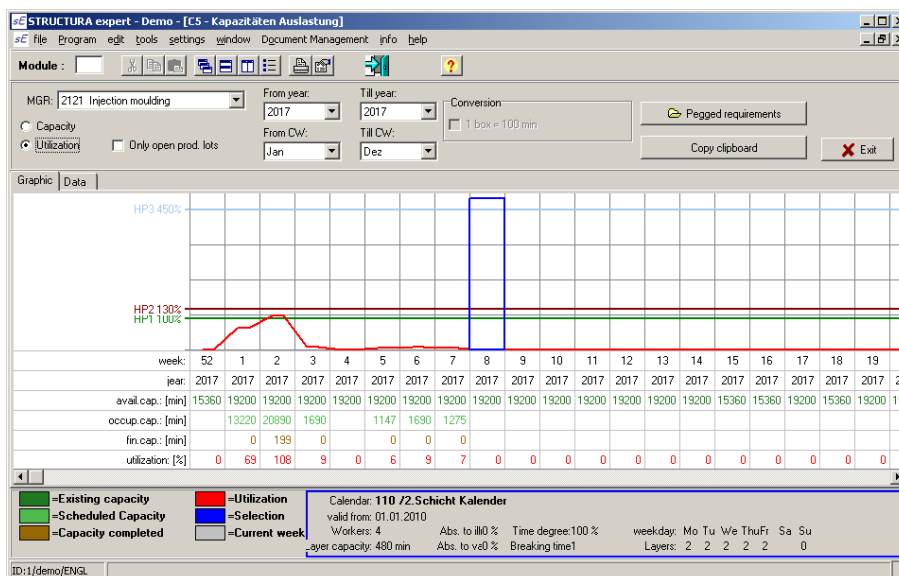
An example of the graphical capacity and utilization display is shown below:



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Exemplary display of capacity of a machine group



Exemplary display of utilization of a machine group

Production orders/Lot division/Scheduling

Production orders are automatically created from a sales order. Production lots can be created equally to customer requested delivery lots or split and combined arbitrary for individual orders.

Another possibility is using the "Article account" and apply scheduling in regard of existing production orders, current stock and existing sales orders.

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STRUCTURA expert - Demo - [D9 - EDI Scheduling]

File Program edit tools settings window Document Management info help

Module:

Overview | Schedule header | Schedule items

[Disposition-header data]

Schedule no. Status Recorded Editing mode: **[Insert]**

Procurement indic. Inhouse production

Entry at Changed at User

[Determine type of schedule]

☒ Bedarfsgesteuert Period in weeks 8 into the future

☒ Verbrauchsgesteuert Period in weeks 12 into the past

Text

[Select inhouse prod. article]

Article no. from to

Customer no. from to

Manuf. process from to

Character key from to

☒ mit Ausschuss disponieren

| Article no. | Description 1 | Pattern no. | Type of disposal | Record level | Sec. level | Max. stock | Procurement pen | Weekly demand | Demand pe |
|----------------|--------------------------------|---------------------------|------------------|--------------|------------|------------|-----------------|---------------|-----------|
| 12 0003 0051 1 | Hintergehäuse AT 200 Feststoff | DN 500 / AT 200 F HG | demand-driven | 0 | 0 | 0 | 0 | 0 | 0 |
| 12 0016 0003 1 | Hintergehäuse AT100 S HG | DN 150 / AT 100 S HG | demand-driven | 15 | 10 | 0 | 0 | 0 | 0 |
| 12 0016 0006 1 | Hintergehäuse AT 200 S | DN 125 / AT 200 S HG | demand-driven | 15 | 10 | 0 | 0 | 0 | 0 |
| 12 0016 0007 1 | Vordergehäuse AT 200 S | DN 125 / AT 200 S VG | demand-driven | 15 | 10 | 0 | 0 | 0 | 0 |
| 12 0016 0013 1 | Vordergehäuse AT100 S | DN 150 / AT 100 S VG | demand-driven | 15 | 10 | 0 | 0 | 0 | 0 |
| 12 0016 0016 1 | Vordergehäuse AT 200 S PN16 | DN 200 / AT 200 S VG PN16 | demand-driven | 15 | 10 | 0 | 0 | 0 | 0 |
| 12 0016 0017 1 | Hintergehäuse AT 200 S PN16 | DN 200 / AT 200 S HG PN16 | demand-driven | 15 | 10 | 0 | 0 | 0 | 0 |
| 12 0016 0018 1 | Vordergehäuse AT 200 F | DN 300 / AT 200 F VG | demand-driven | 15 | 10 | 0 | 0 | 0 | 0 |
| 12 0016 0019 1 | Hintergehäuse AT 200 F | DN 300 / AT 200 F HG | demand-driven | 15 | 10 | 0 | 0 | 0 | 0 |
| 12 0016 0022 1 | Vordergehäuse AT 200 Standard | DN 150 / AT 200 S VG | demand-driven | 15 | 10 | 0 | 0 | 0 | 0 |
| 12 0016 0027 1 | Vordergehäuse AT100 S | DN 200 / AT 100 S VG | demand-driven | 15 | 10 | 0 | 0 | 0 | 0 |
| 12 0016 0028 1 | Hintergehäuse AT100 S | DN 200 / AT 100 S HG | demand-driven | 15 | 10 | 0 | 0 | 0 | 0 |
| 12 0016 0031 1 | Vordergehäuse AT200 S | DN 065 / AT 200 S VG | demand-driven | 15 | 10 | 0 | 0 | 0 | 0 |
| 12 0016 0032 1 | Hintergehäuse AT200 S | DN 065 / AT 200 S HG | demand-driven | 15 | 10 | 0 | 0 | 0 | 0 |

Check workplan

SQL 1

Article overview Delete not registered production lots Redispense UE-stock in current week Automatic process

ID:1/demo/ENGL

Creation of new production schedules

STRUCTURA expert - Demo - [D9 - EDI Scheduling]

File Program edit tools settings window Document Management info help

Module:

Overview | Schedule header | Schedule items

[Article overview]

| Article no. | Description 1 | Pattern no. |
|-------------|----------------------|-------------|
| W-1010421 | Halter APS VAL AUJ3X | KS-0262 |

[Plan. order overview]

| CK | Date | Quantity | Planning ord | Status | Prod. order item |
|--------|------------|----------|--------------|---------------|------------------|
| 201705 | 01.02.2017 | 13454 | P-00000640 | Scheduling dk | 11-02258.001 |
| 201706 | 10.02.2017 | 20000 | P-00000641 | Scheduling dk | 11-02260.001 |
| 201707 | 15.02.2017 | 15000 | P-00000642 | Scheduling dk | 11-02258.001 |

[Pegged requirement]

| Item | Quantity | Date | Order no. | Item | Lot | Ordered | delivered | Pr |
|------|----------|------------|-----------|------|-----|---------|-----------|----|
| 1 | 13454 | 01.02.2017 | 11-02258 | 1 | 2 | 20000 | 0 | |

[Controlling]

☒ Schedule all planned orders

☒ Print capacity utilization in protocol

[Edit plan. order]

Item 1 Editing mode: **[Browse]**

Article no. W-1010421

Date 01.02.2017

Quantity 13454

Plann. order no. P-00000640

Status 9 Scheduling done

Disposition level 0

Entry at 22.12.2016 14:25:10

Changed at 22.12.2016 14:31:06

User arnold

Prod. order item 11-02258.001

Lot no. 1

Order proposal no.

Order no.

Order item

Order

Buttons: Edit, OK, Insert, Discard, Delete, Split, Schedule, Cancellation, Exit

ID:1/demo/ENGL

Overview of production order and demand producers



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The screenshot displays the 'Article account' for article R-0100. The interface includes a menu bar, a toolbar, and several tabs: Overview, Article schedule data, Account - Overview, and Account - External processing. The 'Account - Overview' tab is active, showing a table with columns for Week, Requirement, Planned order, P-Order, Ordered, and available. The table data is as follows:

| Week | Requirement | Planned order | P-Order | Ordered | available |
|---------|-------------|---------------|---------|---------|-----------|
| 33.2014 | 0 | 0 | 3000 | 0 | 3498 |
| 49.2015 | 17998 | 0 | 14500 | 0 | 0 |
| 53.2015 | 4500 | 0 | 4500 | 0 | 0 |
| 02.2017 | 0 | 0 | 0 | 0 | 0 |

Other tabs include 'Production stock' and 'Aquisition stock', which show inventory levels and acquisition dates. The 'Weekly overview' tab is also visible, showing a table with columns for Quantity, Date, Process type, Process no. item, Lot, Qty, Qty. done, Status, Rescheduled, Sched.no., and Planned scrap.

Display of the "Article account"

Detailed planning - Planning board

Based on created production orders and defined shifts, a detailed planning is possible. The order of planned production orders for each machine is visualized in a Gantt diagram.

The screenshot displays the 'Daily scheduling' interface for the planning board. The interface includes a menu bar, a toolbar, and several tabs: Overview, Day.sched., and Graphic - Lead time with utilization. The 'Day.sched.' tab is active, showing a Gantt diagram for the date 15.05.2015. The Gantt diagram shows the schedule for three machines: 9001 BOY90, 9002 ARBURG 570 S, and KS-001 ARBURG 570 H. The schedule is visualized as a Gantt chart with green bars representing production orders. The interface also includes a 'Shifts' section with a table for shifts and a 'Worklist prod.orders' section with a table for production orders.

Scheduling of production orders with the help of Daily scheduling

Production work documents with special work instructions, as well as single working papers, can be created with the help of **structura**. Customization according to customer requirements is doable anytime with the help of a form generator.

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| DEMO Work instruction – Dispatch ready/193001 Dispatch | | | |
|---|--|--|--|
| Customer: | | Production order FE – 11-02231.001 | /lot 5 Serial |
| Article no. : ks 0106 Article des : Cas sette Pattern no. : 00043315 Drawing no. : Acceptance: none | | Material : Pouring weight : 4 estm. Gross weight : 4 estm. Delivery weight : 4 estm. Manuf. Process : Injection moulding | Sequ. Work step 60 KS-009 Quantity Ordered : 10290 Prod.lot : 3500 |
| Cost centre : Wage grp. : Machine grp. : 2121 | Standard time Set up : 0 Prod time : 5 | Method plan of work step : KS-003 To work step : Assembly | Deadline 27.11.2015 |
| Order/item/Prod lot/Sequ.: 11-02231/1/5/60 | | BARCODE: 225125 | |

| Pers. no | Name | Date | Quantity | Actual time | G/N/A | Reason Nr. | Text | Superv. |
|----------|------|------|----------|-------------|-------|------------|------|---------|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

Example of work instructions

| Daily schedule | | | | Date: 29.06.2017 |
|---|----------------------|----------------------|------------------|------------------|
| | | | | User: rex |
| Machine: SPC50 | | | | |
| Planning board no.: Injection 5 | | | | |
| M-00478/001 | | | | |
| Equipment/Combi | 6180003K1K1 | Cavity Pattern no. | Core weight (kg) | |
| Injection moulding equipment | 1180003 180003K01 | 4 BWTS 5303 101 4965 | 0,4 | |
| Period from 04.12.2013 05:30:00 to 04.12.2013 15:39:24 | | | | |
| Term&Condit. | Planned qty. | Plan.cycles | | |
| Set up | | | | |
| | | | | |
| Produce | 668 | 167 | 267,2 | |
| | | | | |
| | | | | |
| Work instruction 180003K01 Set up see AA-6180003 K1-c Production see AA-6180003 K1-c | | | | |
| M-00479/001 | | | | |

Example of a daily schedule

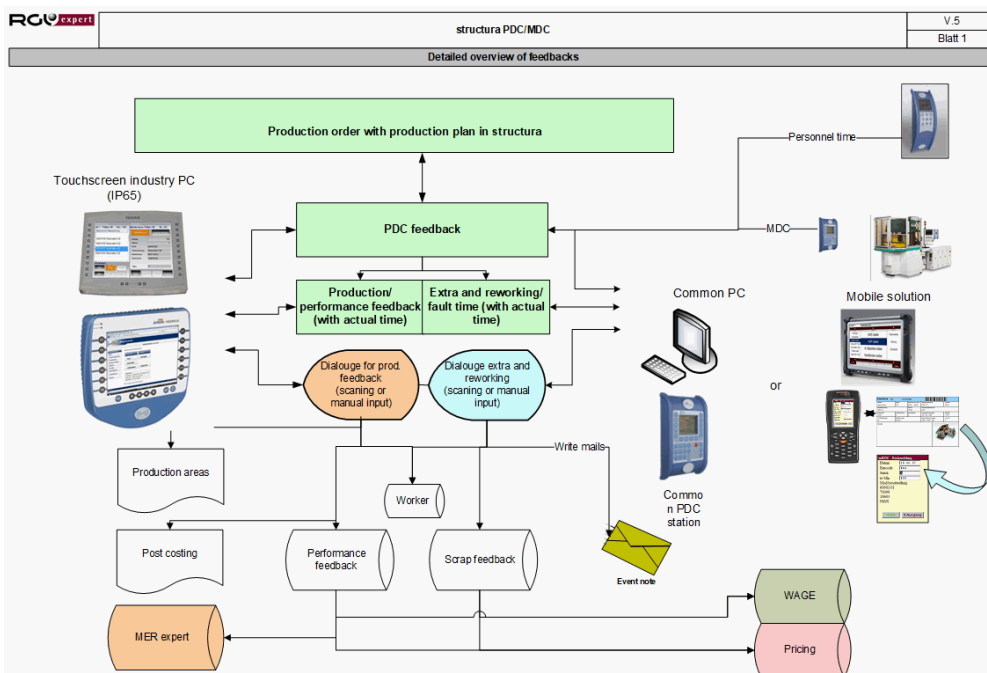
Feedbacks - PDC and optional MDC

Capturing of feedback of tasked work steps can be done in multiple ways and customized for every company.

Multiple options exist for entering data at a PC, PDC station or via an barcode scanner.

This feedback is used for lowering current machine utilization and information of the current production and order progress.

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Feedback information integration for PDC/MDC in structura

As shown in the above overview, feedback-stations are possible in multiple locations in the system and feedback can be entered on a normal PC workstation, on Touch-screen and even mobile devices.

Following feedback stations might be of importance in production (detailed specification is decided on by each company):

- Feedback on equipment delivery (including admission and withdrawal of equipment from a warehouse)
- Feedback on delivery of production materials including pre-heating of each material (automatic system feedback)
- MDC (**M**achine **D**ata **C**apturing) and evaluation of injection moulding machines for monitoring production cycles and production and fault times
- Management of external processing using the **structura** system (Feedback on transport of material)
- Optional feedback of further work steps by the system, e.g. testing and assembling, end of production with determination of produced quantities via counting scales (connection of counting scales has to be checked)

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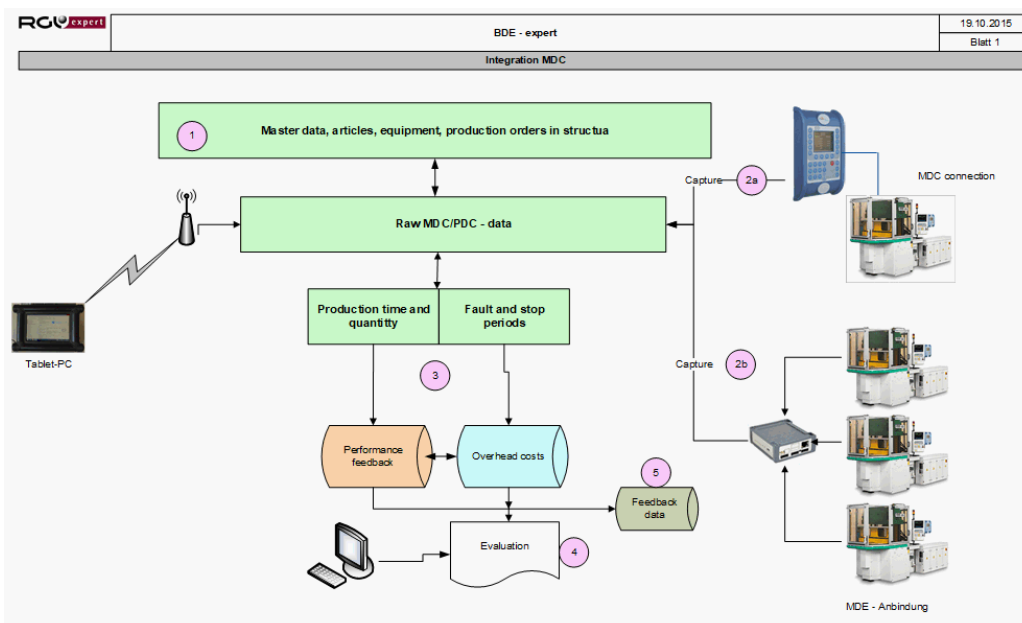
Standard feedback in structura

Example of feedback dialogue on a touch screen

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MDC integration

The following shows an exemplary integration of MDC data in structura.



MDC integration

All master data is already present (#1) since MDC is already an integrated part in **structura**.

Solution #2a: A PDC terminal is assigned to every machine. These terminal are used for starting production orders. The PDC terminal captures the MDC signals (machines with time stamps) and saves them in the raw MDC/PDC data. Upon a new production process, a signal will be send. The PDC terminal send a fault signal, if the standard production time is exceeded (optical solutions using LED lights work as well). The worker then has to enter a fault reason and the machine can be cleared for production again.

Solution #2b: The production unit are connected via a IO-BOX V4 to a network. Starting and ending of the production order and machine allocation is done on a tablet PC with a touch screen. The IO-box V4 capture the MDC signals (machines with time stamps) and saves them in the raw MDC/PDC data. Upon a new production process, a signal will be send. The PDC terminal send a fault signal, if the standard production time is exceeded (optical solutions using LED lights work as well). The worker then can use the tablet PC to enter a fault reason and the machine can be cleared for production again.

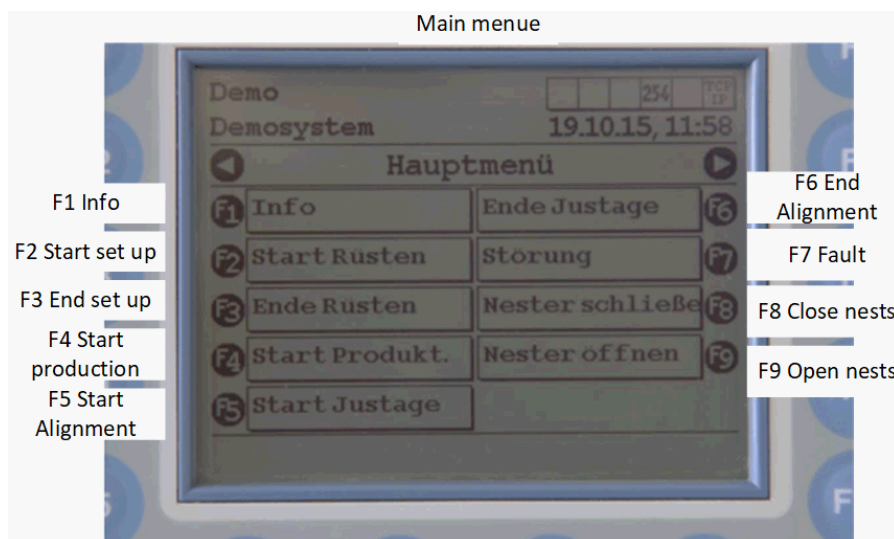
Started production orders and the raw MDC data are joined on a time axis. PDC production and fault notes are generated from this (#3).

The system offers a variety of evaluations and it's own reporting tool allows for the creation of own evaluations and reports (#4).

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Menu options on a PDC terminal for feedback (Example for #2a)

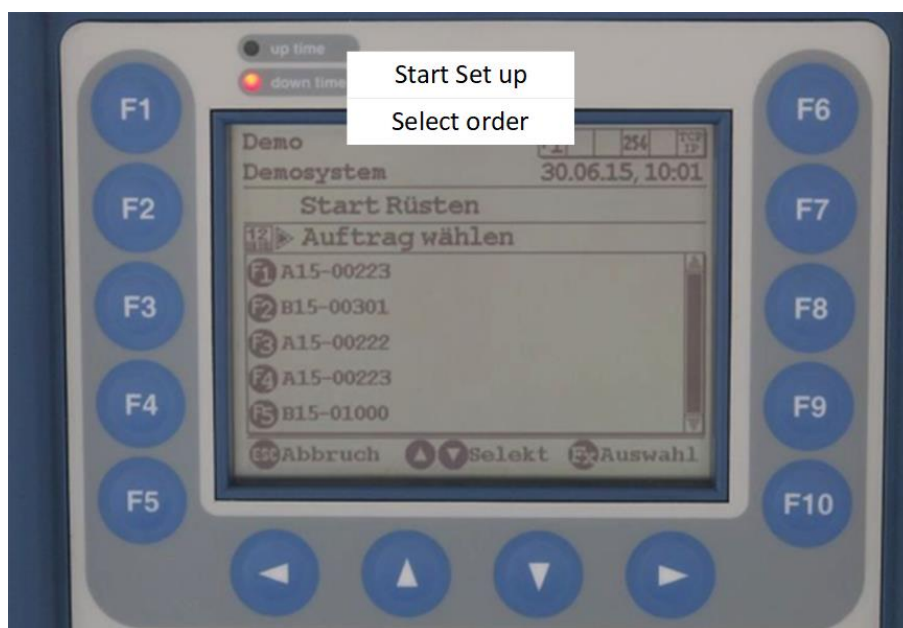
The menu can be individually configured by RGU Expert. The assignment of buttons (F-buttons) with special functionality improves the operation for the worker.



PDC terminal menu

Set up, production and alignment processes are created as start/stop messages. Pressing F1 shows information to the current order.

In this example, the production process starts with setting up the machine. The start message begins with a scan process of a bar code, input of an order number using the keypad or with the selection of a production order of the displayed list. The lead time of the production order starts with the start message "Set up".



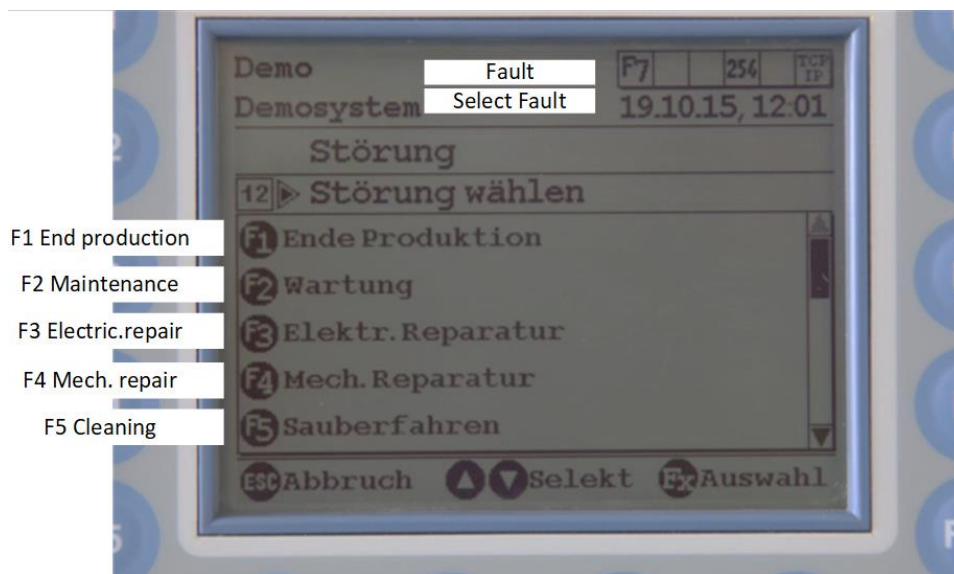
Selection of production orders

structura – The ERP solution for Plastics processing

Machine

faults

Every product and order has a pre-determined cycle period assigned to it, which is send to the terminal via the start message "Production". A fault signal is send out, when the cycle period exceeds a certain waiting period. The PDC terminal will then switch to the fault setting and awaits the input of a fault reason. Faults are visible, when the connected LED lamp switches from green to red (down time). Bigger lamps can be connected as well, which is why a own port is already integrated in the PDC terminal. Fault time periods and reasons are documented in a feedback table and can be analyzed later on.



Example of fault selection

Fault reasons are parameters in **structura** (MDC) and can be individually adjusted.

Above's input "End production" can be selected at the end of production and the equipment can be taken down.

Menu options on a tablet PC for feedback (Example for #2b)

The menu on a tablet PC can be designed for an easy and clear operation of the required features.

Selecting a task, e.g. "Injection moulding", can be done after the worker's log in. Then a machine for this task can be selected and finally the feedback program like normal feedback, fault feedback or work list.

The set up and production process are designed as start/stop messages.

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| | | |
|--|---------------|----------------|
| Login | Max, Müller | |
| Task | Machine | Programs |
| Injection moulding | Arburg | Feedback |
| Painting | | Fault Feedback |
| | | Work list |
| | | |
| discard | | exit |
| Do 29.06.17 12:34 VM-ARNOLD-EC / 00aaa | | |

Menu on a tablet PC and start of production

Just like in the PDC solution #2a, the production is designed as start/stop messages. The production starts with selecting a production order on the display (see below), input of an order number or via a scan process of a bar code. Cycle periods of connected MDC connection start with the start message for production and the system starts counting the machine cycles. This process can be interrupted, if a machine fault occurs.

Max, Müller

Lasert

/

Work list

| Part | Description | Amount | Done | Begin |
|---------|----------------------------|--------|------|----------|
| R-0100 | Display zum Präsentieren v | 3000 | 14 | 08.12.15 |
| R-99999 | 7785/06/14- Soventol | 505 | | 21.03.16 |
| R-99999 | 7785/06/14- Soventol | 510 | | 11.04.16 |

ok

discard

Do 29.06.17 13:45

AV / VM-ARNOLD-EC / 00

Selection of orders from a work list

7 Quality control system

The QM module in **structura** supports all QM requirements for a seamless integration in the production process. The QM module starts with the product planning, where specific product and process related target parameters are determined for test plans. This is the base requirement for the QM module and for production and test planning. Customer complaints can be captured and compared with production parameters as well.

Prompt feedback of processes requiring testing allows for a prompt recognition of deviations and mistakes in the production process. A comprehensive reporting keeps the status of test process up to date.

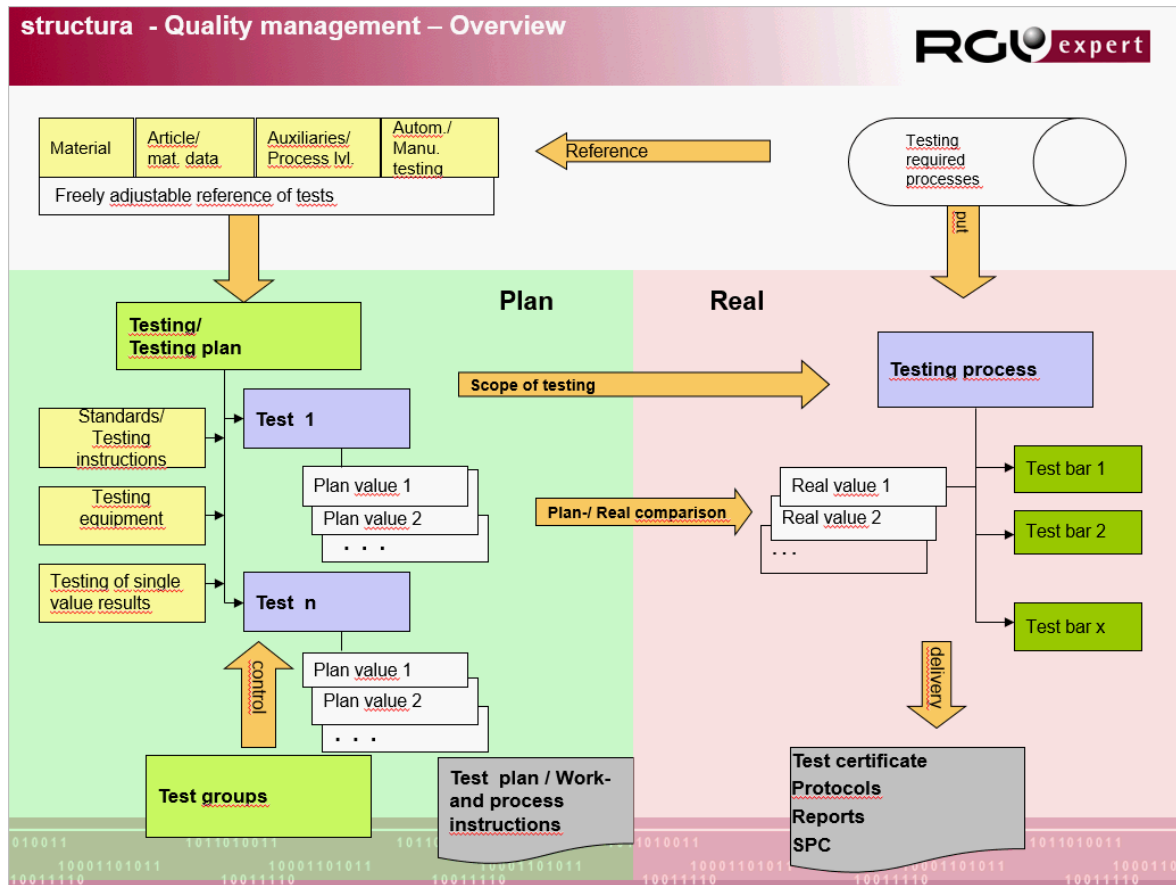
Interfaces to third-party programs for quality management are possible.

Scope of features

- Material management
- Management of norms and standards
- Production defect management
- Approval/blockage of production batches
- Management of chemical and mechanical test parameters
- Test plan management
- Creation of test certificates
- Complaint management

structura – The ERP solution for Plastics processing

Overview of QM features

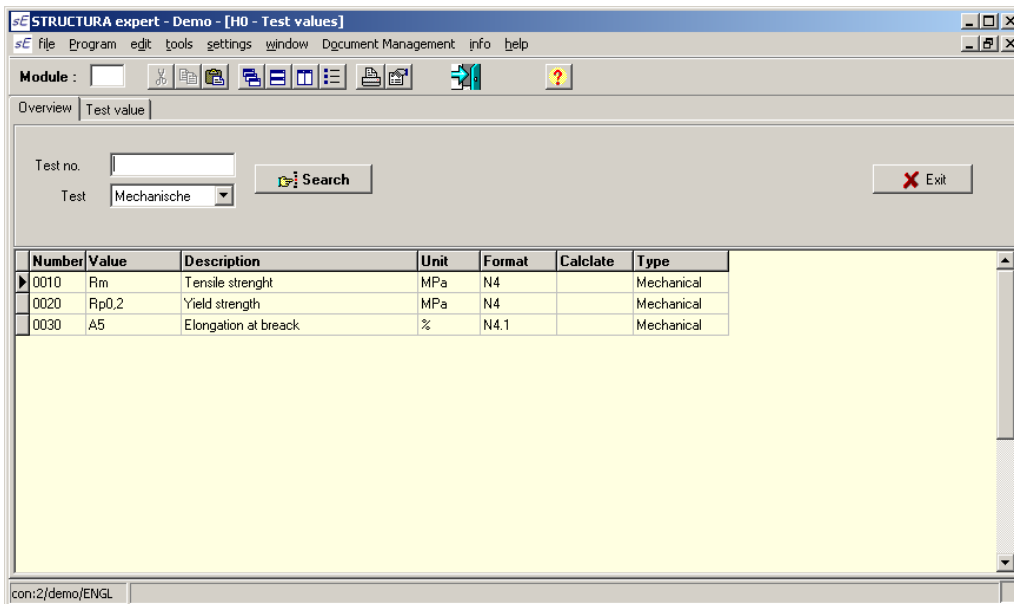


Overview of QM features

structura – The ERP solution for Plastics processing

Test planning

Test plans consist of test values and test work steps. All values and steps are adjustable. Test plans are assigned to articles or materials and contain target values (min/max) to each test work step.

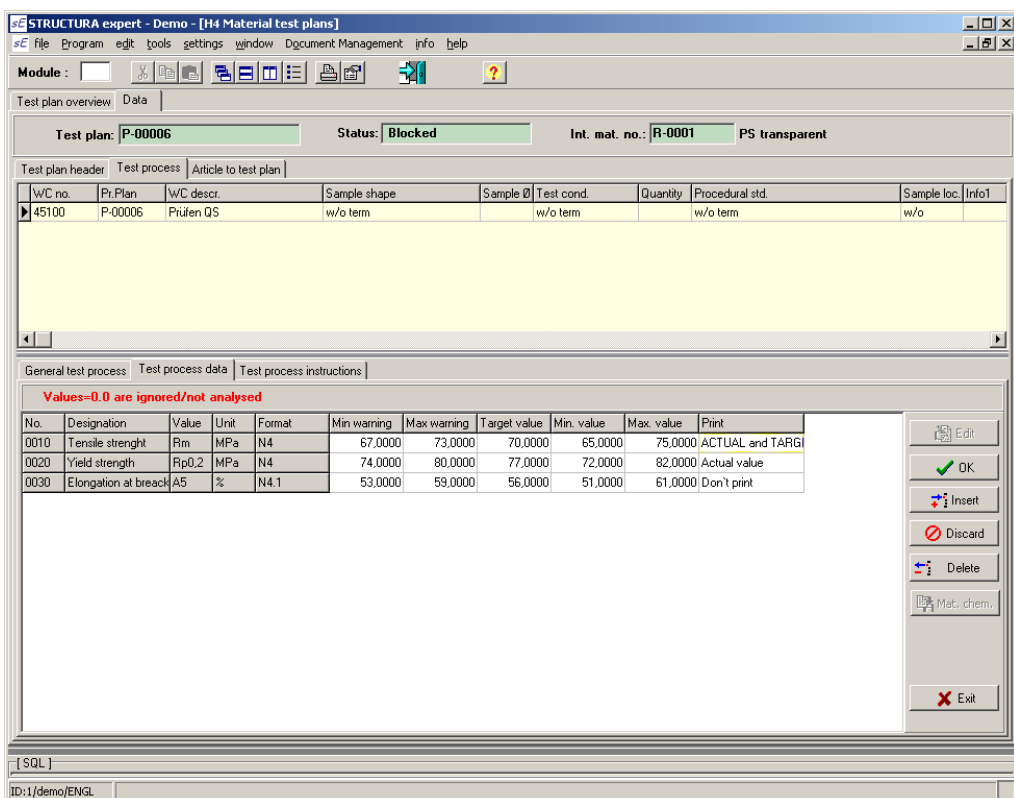


The screenshot shows the 'Test values' window in the STRUCTURA expert software. It features a menu bar (file, Program, edit, tools, settings, window, Document Management, info, help) and a toolbar. Below the toolbar, there are tabs for 'Overview' and 'Test value'. The 'Test value' tab is active, showing a search area with 'Test no.' and 'Test' (set to 'Mechanische') fields, a 'Search' button, and an 'Exit' button. A table displays test values:

| Number | Value | Description | Unit | Format | Calculate | Type |
|--------|-------|---------------------|------|--------|-----------|------------|
| 0010 | Rm | Tensile strenght | MPa | N4 | | Mechanical |
| 0020 | Rp0.2 | Yield strength | MPa | N4 | | Mechanical |
| 0030 | A5 | Elongation at break | % | N4.1 | | Mechanical |

The status bar at the bottom indicates 'con:2/demo/ENGL'.

Example of mechanical test values



The screenshot shows the 'Material test plans' window in the STRUCTURA expert software. It features a menu bar (file, Program, edit, tools, settings, window, Document Management, info, help) and a toolbar. Below the toolbar, there are tabs for 'Test plan overview' and 'Data'. The 'Data' tab is active, showing a table with test plan data:

| WC no. | Pl. Plan | WC descr. | Sample shape | Sample Ø | Test cond. | Quantity | Procedural std. | Sample loc. | Info1 |
|--------|----------|-----------|--------------|----------|------------|----------|-----------------|-------------|-------|
| 45100 | P-00006 | Prüfen QS | w/o term | | w/o term | | w/o term | w/o | |

Below the table, there are tabs for 'General test process', 'Test process data', and 'Test process instructions'. The 'Test process data' tab is active, showing a table with test process data:

| No. | Designation | Value | Unit | Format | Min. warning | Max. warning | Target value | Min. value | Max. value | Print |
|------|---------------------|-------|------|--------|--------------|--------------|--------------|------------|------------|-----------------|
| 0010 | Tensile strenght | Rm | MPa | N4 | 67,0000 | 73,0000 | 70,0000 | 65,0000 | 75,0000 | ACTUAL and TARG |
| 0020 | Yield strength | Rp0.2 | MPa | N4 | 74,0000 | 80,0000 | 77,0000 | 72,0000 | 82,0000 | Actual value |
| 0030 | Elongation at break | A5 | % | N4.1 | 53,0000 | 59,0000 | 56,0000 | 51,0000 | 61,0000 | Don't print |

The status bar at the bottom indicates 'ID:1/demo/ENGL'.

Test plan example

Warning ranges, minimum and maximum limits for test values can be defined for each test process data.

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**Werkzeugnis
Test Report
2.2 DIN EN 10204**

Seite/Page : 1 / 1

RGU Expert GmbH, Würzburg

Metallbearbeitung

Im Gewerbegebiet 12

Herst. Kennzeichen Mark of the manufacturer 
Zeugnis Nr. /Cert. No. **15-PZ00003**
Zeug. Datum /Cert. Date **27.07.2015**
Lieferschein-Nr. /Shipping No. **15-L500525**
Liefersch.-Dat. /Shipping Date **26.02.2015**
Werkst.-Nr. /Material No.

Werkst.-Bez. /Material Name **AlSi10Mg(a)**
Werkst.-Norm /Material Norm
Wärmebehandlung **Gusszustand**
/Heat Treatm. **Gusszustand**
Liefervorschrift /Shipping Spec. **DIN EN 1706**

Artikel-Nr. /Article No. **51102173**
Artikel-Nr.Knd. /ArticleNo.Cust. **873 153 05 05**
Modell-Nr. /Pattern No. **MTU 873 153 05 05**
Zeichn.-Nr. /Drawing No. **873 150 13 38/e**
Artikel-Name **Verteilergehäuse**
/Article Name

| Nr. No. | Datum Date | Stück Pieces |
|------------|---------------|-----------------|
| 260115 | 26.01.2015 | 35 |

Chemische Analyse

Chemical Analysis

| Nr. No. | Si % | Fe % | Cu % | Mn % | Mg % | Cr % | Ni % | Zn % | Pb % | Sn % | Ti % | E |
|---------------|------------|-------------|-------------|-------------|-------------|--------------|-------------|-------------|-------------|-------------|-------------|---|
| Minimum | 9,0 | | | | 0,20 | | | | | | | |
| Maximum | 11,0 | 0,55 | 0,05 | 0,45 | 0,45 | | 0,05 | 0,10 | 0,05 | 0,05 | 0,15 | |
| 260115 | 9,3 | 0,29 | 0,01 | 0,16 | 0,36 | 0,002 | 0,00 | 0,01 | 0,01 | 0,00 | 0,08 | |

structura – The ERP solution for Plastics processing

Complaint management, 8D-Reports

STRUCTURA expert - Demo - [MODUL 40_APPS Reklamationen Vertrieb]

file program edit tools settings window Document Management info help

Module :

Overview Complaint header Complaint items

[Selection]

Customer no. like Status Alle Search

Pattern number short

Next Exit

| Complaint no. | Customer n | Customer ID | Customer complaint no. | Complaint date | Our Reference | Complaint status | Contact person | 8D avail | Evaluation indic. |
|---------------|------------|-----------------|------------------------|----------------|---------------|------------------|----------------|----------|-------------------|
| 11-00541 | R-0100 | RGU Expert GmbH | | 03.08.2017 | maier | QM in progress | Mustermann | | |

[SQL]

ID:1/demo/ENGL

Overview of complaints in the complaint management

STRUCTURA expert - Demo - [MODUL 40_APPS Reklamationen Vertrieb]

file program edit tools settings window Document Management info help

Module :

Overview Complaint header Complaint items

Complaint no. 11-00543 Status 0 Recorded from 04.08.2017 Editing mode: [Edit]

Customer data

Customer no. R-0100 RGU Expert GmbH

Complaint addr. R-0100

Customer contact person

Customer complaint no.

Cum. yearly rev. 0 EUR

Customer credit

Value crdt.note 0

Name 1 RGU Expert GmbH

Name 2

Street Schweinfurterstr. 28

ZIP code, city 97076 Würzburg

Trainstation

Country D Germany

Language English

Manuf. site

Complaint data

Complaint date 04.08.2017

Complaint form 0 Via letter

Internal costs EUR

External costs EUR

Entry at 04.08.2017 demo

Changed at 04.08.2017 demo

[Internal text]

Edit OK Insert Discard Delete Internal texts QM Clearance for - QM Cancel clearance Complaint Clearance for - Gd End Cancel Print Exit

ID:1/demo/ENGL

Complaint header data

structura – The ERP solution for Plastics processing

STRUCTURA expert - Demo - [8D-Report]

File Program edit tools settings window Document Management info help

Module:

Overview 8D Report

Status report: 2D 2D Last change: 14.07.2014 by: arnold Edit mode: [E-Edit]

Complaint data

Complaint no.: 11-00537 Item: 1 Defect type: Defect no.: Defect

Complaint status: 2 QM in progress

Customer no.: 0008

Cust. compl. no.: 201107050107

Legal: 1 Yes

Article and sales information

Article no.: 12 0008 0028 1 Flanschzylinder

Pattem no.: R 924 144 03 44

Manuf. process: 01 General (material, etc.)

Order: 10 00373

Salesman: 005

8D Data

1D Assembly of team/determination of responsibilities

Deadline: 17.07.2014 Respons. [feri] Substitute [feri] Done

2D Description of the problem

Deadline: Respons. Substitute Done Back

3D Instigation of temp. measures for damage control and check of its effectiveness

Deadline: Respons. Substitute Done Back

4D Determination of root cause and proofing, whether this is the root cause or not

Deadline: To customer: 0 No at Respons. Substitute Done Back

5D Determination of counter activities and check for effectiveness

Deadline: Respons. Substitute Done Back

6D Implementation of activities and monitoring effects

Deadline: Respons. Substitute Done Back

7D Determination of activities, which prevent recurrence of same problem

Deadline: Respons. Substitute Done Back

8D Honouring achievement and success of the team

Deadline: To customer: 0 No at Completion Back

8D REPORT

Changed at: by:

Acknowledged by cust.: 0 No

Buttons: Edit Show Add Delete Email

Buttons: Edit OK Discard Delete Cancellation Exit

ID: 1/demo/ENG

8D report dialogue

DC-Formular

Qualifizierte Stellungnahme

Reklamationsmanagement

Kopfdaten

Beanstandungsnummer: 200422407 / 200422410 / 200423990

Zurückgemeldete nM/ Stück: 1 / 1 / 4

Problembeschreibung

QM 200422407: Einschuss im Hals (Kundeneinschuss),
Itd Nr. 12 195 57- Ausschuss

QM 200422410: Einschuss im Hals (Kundeneinschuss),
Itd Nr. 12 163 73- Ausschuss

QM 200423990: Einschüsse (Schlacke?),
12 233 70 (Ausschuss),
12 222 60 (Toleriertnach Bildokumentation 12 226 60
09 328 63 (Verwendung offen)
12 233 63 (Verwendung offen)

Bewertung: Stütz

12 195 57 nichtmetallische Einschüsse im Schaft (Ø 420 / 400)

12 163 73 mehrere nichtmetallische Einschüsse im Schaft (Ø 440/420 / 400)

12 233 70 Formstoff/Schlacke im Ø 248/6 und auf Fläche Ø 275

12 226 60 Formstoff/Schlacke in Fläche M6 S20-0,2 und bei Plananlehnung Ø 76 (Schritt F-E) OK

09 328 63 Formstoff/Schlacke Rohfläche Ø 308 OK

12 233 63 Rohstiele (Ø 40 x 40 x 1,5) Ø 1260/1150 - Einzelfehler

Hauptfehler: nichtmetallische Einschüsse/Schlackeeinschüsse und Formstoff/Schlacke

Uti Nr. 12 163 73 Uti Nr. 12 163 73 Uti Nr. 12 233 63

Uti Nr. 12 233 70 Uti Nr. 12 233 70

© Bosch Rexroth AG 2011

FR 12076-611 / JCH/LJL/OK_2011-09-13.doc

Bosch Rexroth AG Editor: DCPUG FR 10083 Seite 1 / 2

Example of an 8D report

Problemlösungssystematik, Stellungnahme

Seite 2 / 2

FR 12076-611 2011-09-13

Sofortmassnahmen

| Auswertung der Beanstandungen mit dem zuständigen Personal (Aufmerksamkeit bei der Herstellung der Formen, beim Zulegen und beim Greifen) | Verantwortlich | Eingeführt am |
|---|----------------|---------------|
| Prüfung der Modelleinrichtung (Anschnitt und Filter) | CMF | 08.11.2013 |
| Ergebnis: keine massichen Abweichungen oder Verschleiß festgestellt | CMF, SuT | 08.11.2013 |
| Probeherstellung/Probeauftrag über 2 Stk. | Schütz K. | |
| Zulegeprobe (Überprüfung Kennspiel) | Richter N. | |
| Ergebnis: keine Auffälligkeiten beim Zulegen und Abdrücken der Form | Schütz Ch. | |
| Idt Nr. 12 311 50, 12 311 51 | | |
| Ergebnis ZSP (VT, MT, UT) Ende KW 47 | | |
| Evtl. Vorbearbeitung der zwei Teile | | |
| Actualisierung mit Ergebnis folgt | | |

Ursache

| Warum konnte der Fehler auftreten? | Verantwortlich | Eingeführt am |
|--|----------------|---------------|
| Schlackeeinschüsse: Oxidations- und Reduktionsvorgängen der Gussweiseinschmelze während des Gießvorganges | Schütz Ch. | 08.11.2013 |
| Formstoff/ Unachtsamkeit beim Formen und Zulegen der Form | | |
| Warum ist der Fehler nicht entdeckt worden? | Verantwortlich | Eingeführt am |
| UT Prüfung: nur bedingt bzw. nicht möglich weil eine Rückwandabhebung und eine Senkung des Reifensvermögens/Echosamplitude nur bedingt gegeben sind (Aufgrund der Fehlerart, Lage und Größe) | Schütz Ch. | 08.11.2013 |
| Magnetpulver/Sichtprüfung: wenn die Anzeigen zur Oberfläche hin offen sind, können sie festgestellt werden (Prüfbereich Wangen 2/Verbindungsstege und Übergangsradus Schaft/Wange 1) | | |

Massnahmen

| Bezüglich Auftreten | Verantwortlich | Eingeführt am |
|---|----------------|---------------|
| Weiter Optimierungen parallel zu Seite sind geplant: | Johannes W. | 08.11.2013 |
| - Schlackversuche parallel zu Seite sind geplant | Vielhoefer F. | |
| - Evt. zusätzliche Trocknung der Kerne | Unverricht O. | |
| Weitere Informationen folgen | Schütz Ch. | |
| Bezüglich Entdeckung | Verantwortlich | Eingeführt am |
| 100 % Prüfung der beanstandeten Bereiche (VT, MT, UT) | Schütz Ch. | 08.11.2013 |
| Evt. Vorbearbeitung zur Fehlerendeckung | | |

Bestätigt durch Lieferanten:

Am: 08.11.2013 Name: Schütz Ch.



structura – The ERP solution for Plastics processing**8 Aquisition and material management**

Stock, storage areas and prices for inventory managed articles are managed in the *Aquisition and material management* module in **structura**. The module offers dialogues for capturing stock ingress and withdrawal.

Incoming invoices can be captured with **structura** and transferred to a finance and accounting system.

Invoice data can be used for the automatic creation of transfer prices subject to change.

The *Aquisition* part of the module manages master data of suppliers with corresponding supplier price lists and article master data for procurement articles.

Scope of features

- Supplier master data
- Procurement article master data
- Inventory and account management
- Stock management
- Consignment stocks
- Immediate consumption
- Inquiry management
- Purchase management
- Pricing for prices subject to change
- Management of standard prices
- Stock ingress
- Stock withdrawal
- Invoice control
- Article information
- Interfaces to third-party finance and accounting solution

structura – The ERP solution for Plastics processing

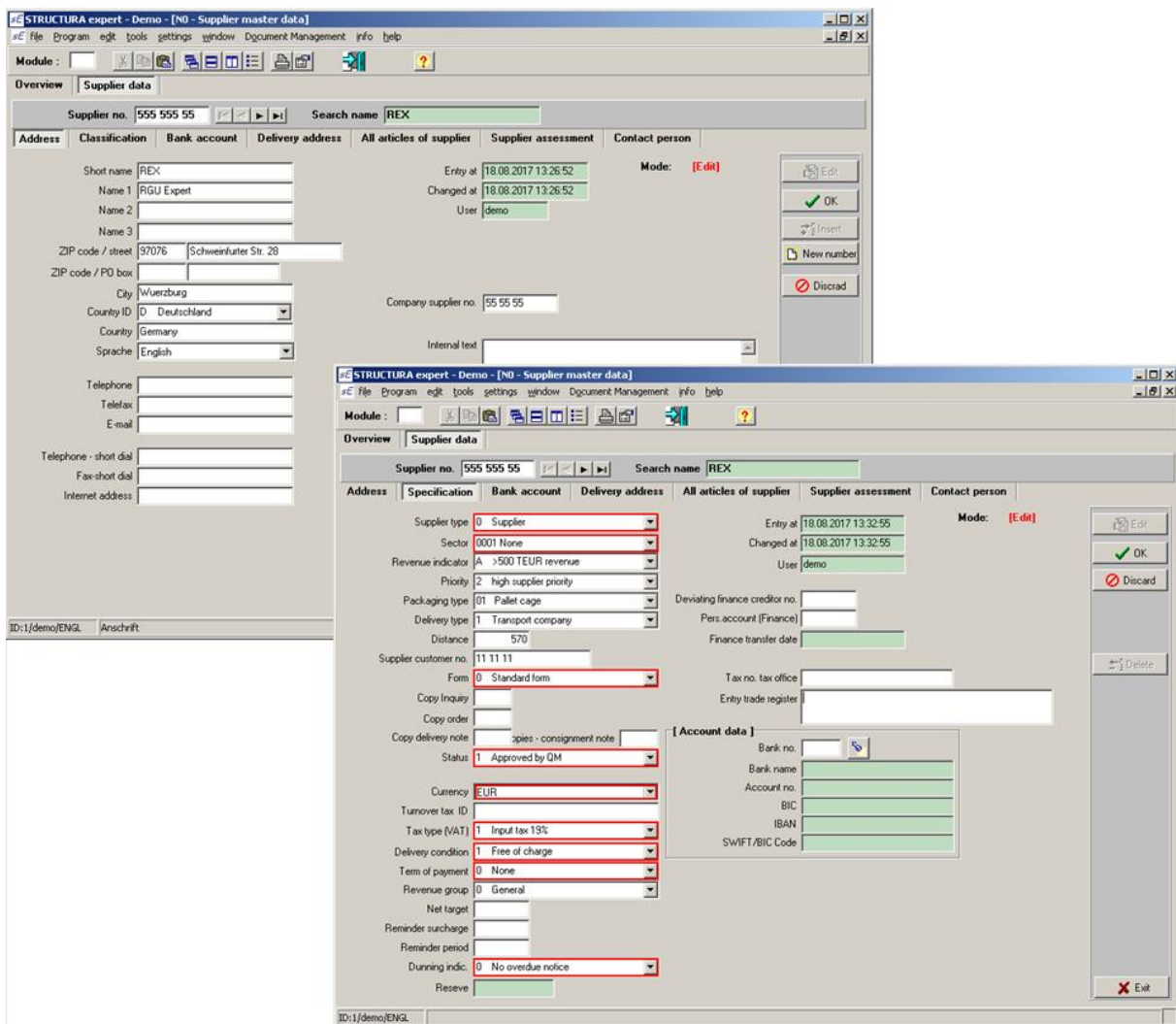
Supplier master data/Article data

In the *supplier master data* all global supplier data is documented. The master data includes information about addresses, accounts and further specifics like branch, revenue classification, currency and tax type.

The *article data* documents all important data for procurement articles. It offers the options of creating internal and external texts.

Allocations of articles to specific suppliers is possible and each supplier may have their own price tables documented. Upon opening the article data, information on current and open order stock and value is displayed immediately.

Articles for costing are assigned to corresponding pool of costs and the costs for the costing is documented.



Supplier master data



structura – The ERP solution for Plastics processing

Article master data

All articles in use are assigned an unique number and are managed in the *article master data*. Pseudo articles have to be created for some process, e.g. services. Following data has to be entered for each article:

- Designation and quantity units
- Stock per inventory and total
- Supplier from which the article is bought
- Prices for each supplier
- imputed accounting costs
- Scheduling data

STRUCTURA expert - Demo - [N2 - Stammdaten EK Artikel]

File Program edit tools settings window Document Management info help

Module :

Overview Article master data

[Selection]

Short descr. like Search

Article group 0000 allgemein Status alle Artikel ☐ Sort columns

| Article no. | Short descr. | Designation | Add. design. | Int. unit | Status | Article group | Block indic. | Enj |
|-------------|------------------------------|--------------------------------------|--------------|-----------|-------------------|------------------------|--------------|------|
| 10044 | Blockmaterial | Pro Lab 65 1550x500x50 | | Quantity | 0 Inquiry article | 0036 Erzeugnisse der B | 0 Approved | 08.0 |
| 10045 | Blockmaterial | Pro Lab 65 1550x500x75 | | Quantity | 0 Inquiry article | 0036 Erzeugnisse der B | 0 Approved | 08.0 |
| 10031 | Blockmaterial 651 | Necuron 651 1500x600x50 | | dm³ | 0 Inquiry article | 0036 Erzeugnisse der B | 0 Approved | 04.0 |
| 10032 | Blockmaterial 651 | Necuron 651 1500x600x75 | | dm³ | 0 Inquiry article | 0036 Erzeugnisse der B | 0 Approved | 08.0 |
| 10033 | Blockmaterial 651 | Necuron 651 1500x600x100 | | dm³ | 0 Inquiry article | 0036 Erzeugnisse der B | 0 Approved | 08.0 |
| 10034 | Blockmaterial 651 | Necuron 651 1500x500x75 | | dm³ | 0 Inquiry article | 0036 Erzeugnisse der B | 0 Approved | 08.0 |
| 10035 | Blockmaterial 651 | Necuron 651 1500x500x100 | | dm³ | 0 Inquiry article | 0036 Erzeugnisse der B | 0 Approved | 08.0 |
| 10040 | Blockmaterial 770 | Necuron 770 1500x500x75 | | dm³ | 0 Inquiry article | 0036 Erzeugnisse der B | 0 Approved | 08.0 |
| 10036 | Blockmaterial 770 | Necuron 770 1500x500x100 | | dm³ | 0 Inquiry article | 0036 Erzeugnisse der B | 0 Approved | 08.0 |
| 10037 | Blockmaterial 770 | Necuron 770 1500x600x50 | | dm³ | 0 Inquiry article | 0036 Erzeugnisse der B | 0 Approved | 08.0 |
| 10038 | Blockmaterial 770 | Necuron 770 1500x600x75 | | dm³ | 0 Inquiry article | 0036 Erzeugnisse der B | 0 Approved | 08.0 |
| 10039 | Blockmaterial 770 | Necuron 770 1500x500x50 | | dm³ | 0 Inquiry article | 0036 Erzeugnisse der B | 0 Approved | 08.0 |
| 10279 | Boden 5010 | 5010 | | Quantity | 0 Inquiry article | 0037 Verpackungsmate | 0 Approved | 04.0 |
| 10020523 | Buchse | Buchse | | Quantity | 0 Inquiry article | 9000 REWE | 0 Approved | 27.0 |
| 10721 | Buchse A 906 155 00 50 Merc. | Buchse A 906 155 00 50, 20x46-1.0718 | | Quantity | 0 Inquiry article | 0085 Mech. Bearbeitung | 0 Approved | 01.0 |
| 10011177 | Buchsenaufnahme oben | Buchsenaufnahme oben | | Quantity | 0 Inquiry article | 9000 REWE | 0 Approved | 27.0 |
| 10011176 | Buchsenaufnahme unten | Buchsenaufnahme unten | | Quantity | 0 Inquiry article | 9000 REWE | 0 Approved | 27.0 |
| 10073 | Compact-Dichtung 15x9 FPM 75 | Compact-Dichtung 15x9 FPM 75+5 S | | m | 0 Inquiry article | 0082 Schamotterohre | 0 Approved | 25.0 |
| 10777 | Curucast Pfannenmasse | Curucast 80-07 im Sack à 25 kg | | kg | 0 Inquiry article | 0003 Ferrolegerungen | 0 Approved | 29.0 |
| 10130 | Dämpfungsring | Pneum.-Dämpfungsring 35 * 5 | | Quantity | 0 Inquiry article | 0082 Schamotterohre | 0 Approved | 14.0 |
| 10132 | Dämpfungsring | Pneum.-Dämpfungsring 30 * 5 | | Quantity | 0 Inquiry article | 0082 Schamotterohre | 0 Approved | 14.0 |

[SQL]

ID:1/demo/ENGL

Overview of all articles in the article master data for procurement articles

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STRUCTURA expert - Demo - [N2 - Stammdaten EK Artikel]

Module :

Overview | Article master data

Article: RGU-100 | RGU Material: RGU-100 | Status: 0 Inquiry article

General | add./Schedule/Texts | Suppliers | Price | Inventory | Costing

[Add. article master data]

Character-key: 4 Acquisition article | Schedule indic.: 1 Demand-driven schedul

Procurement indic.: 1 Acquired article | Stock: 0,000 | Procurement period in days: 0

ABC - indic.: C Priority C | Backup stock: 0,000 | Demand date:

Charge indic.:

Method plan - article:

Min. order quantity: 0,000 | Specific weight:

Max. order quantity: 0,000 | Sand recipe indic.:

Week demand: 0,000 | Status: 0 Inquiry article

Demand indic.: 0 Manually | Change status: 07.12.2000

Demand period: 0

OP site:

Cust. no.:

Material no.:

Dispatch weight (kg): 0,000 | Status: 0 unknown | Changed at: 03.08.2017 | User: demo

Gross weight (kg): 0,000 | Status: 0 unknown | Changed at: 03.08.2017 | User: demo

[Internal text] | [External text]

ID:1/demo/ENGL

Article master data - Scheduling

Control of scheduling, using the scheduling indicator, can be manual, demand-driven or stock-driven (see red square)

STRUCTURA expert - Demo - [N2 - Stammdaten EK Artikel]

Module :

Overview | Article master data

Article: RGU-100 | RGU Material: RGU-100 | Status: 0 Inquiry article

General | add./Schedule/Texts | Suppliers | Price | Inventory | Costing

[Price]

| Date | Quantity | Price/piece | Price/piece internal | Total sum ex | Export indic. |
|------------|----------|-------------|----------------------|--------------|---------------|
| 03.08.2017 | 1,000 | 0,00 | 0,00 | 0,00 | 0=undefiniert |

Supplier: 20466 Return Kreis | Entry at: 03.08.2017

valid from: 03.08.2017 | Changed at: 03.08.2017

Scale quantity: 1,000 < Kg > kilogram | User: demo

Total sum external: 0,00 EUR / Item | Currency: EUR

Price/unit external: 0,00 EUR / 1 < Kg > kilogra | Exch. rate: 1

Price/unit internal: 0,00 EUR / 1 < Kg > kilogra | Ex. rate date: 01.09.2008

Gross weight (kg): 0,000 | Dispatch weight (kg): 0,000

Export indic.: 0

Price item:

| Item | Price type | Price unit | Base | Inclusive | Price | Price/piece | Price internal | Price/pc. int. |
|------|------------|------------|------|-----------|-------|-------------|----------------|----------------|
| | | | | | | | | |

Item no.:

Price type:

Price unit:

Price:

Price base:

Inclusive price:

Price/unit:

Internal price:

ID:1/demo/ENGL

Article master data - Supplier prices



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Standard prices can be created for each article and supplier. The currently valid standard price can be imported into Prices and Price items.

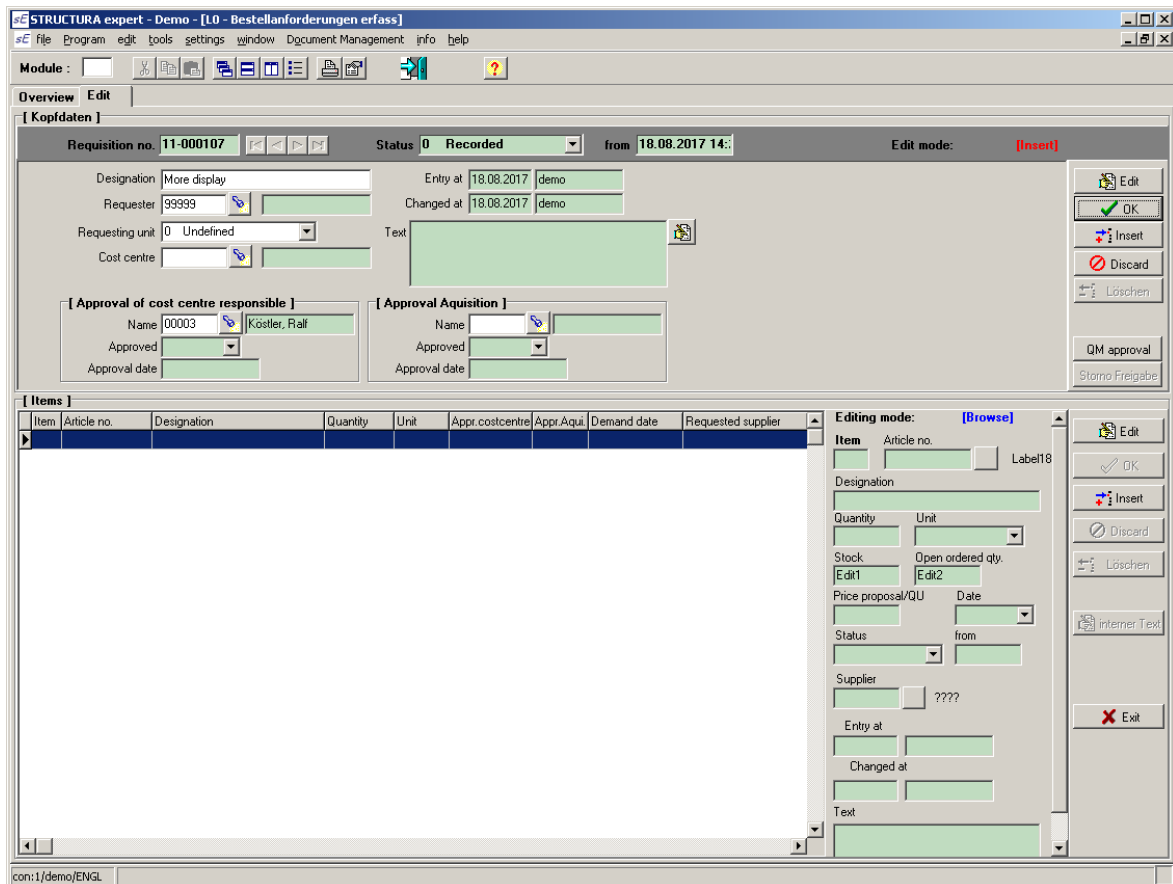
The screenshot shows the 'STRUCTURA expert - Demo - [N2 - Stammdaten EK Artikel]' window. The 'Article master data' tab is active, and the 'Inventory' sub-tab is selected. The article is 'RGU-100' with status '0 Inquiry article'. The 'General' tab shows 'Article group' as '0029 General' and 'Internal unit' as 'kg < Kg > kilogram'. The 'Inventory' tab shows a table with columns: Inventory no., Inventory, Current stock, Value, Main inventor, Entry at, and Changed at. The table contains one row: '009', 'Materiallager', '0,000', '0,00', 'No', '03.08.2017 12.53.13', and '03.08.2017'. The 'Edit mode: [Edit]' panel on the right shows fields for 'Inventory no.' (009), 'Designation' (Materiallager), 'Current stock' (0,000), 'Value' (0,00 EUR), 'Main stock indic.' (0 No), 'Const. inventory' (0 No), 'Entry at' (03.08.2017 12.53.13), 'Changed at' (03.08.2017 12.53.13), 'User' (demo), 'IG-account', 'Expense account', and 'Point of use'. The bottom status bar shows 'ID:1/demo/ENGL'.

Article master data - Article inventory

Purchase requisition/Inquiry/Quotation

Authorized personnel is allowed to create purchase requisitions and to place them with Aquisition department, which start requesting for tenders from suppliers. A procurement order can then be created out of an inquiry.

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Purchase requisition

Material scheduling, MRP, Purchase requisition

Monitoring material stock, consumption and procurement orders for each article can be done manually, as well as automatically via scheduling and MRP (Material Resource Planning) by the system.

There are two type of basic scheduling types to decide on:

- demand-driven scheduling
- consumption. and stock-driven scheduling

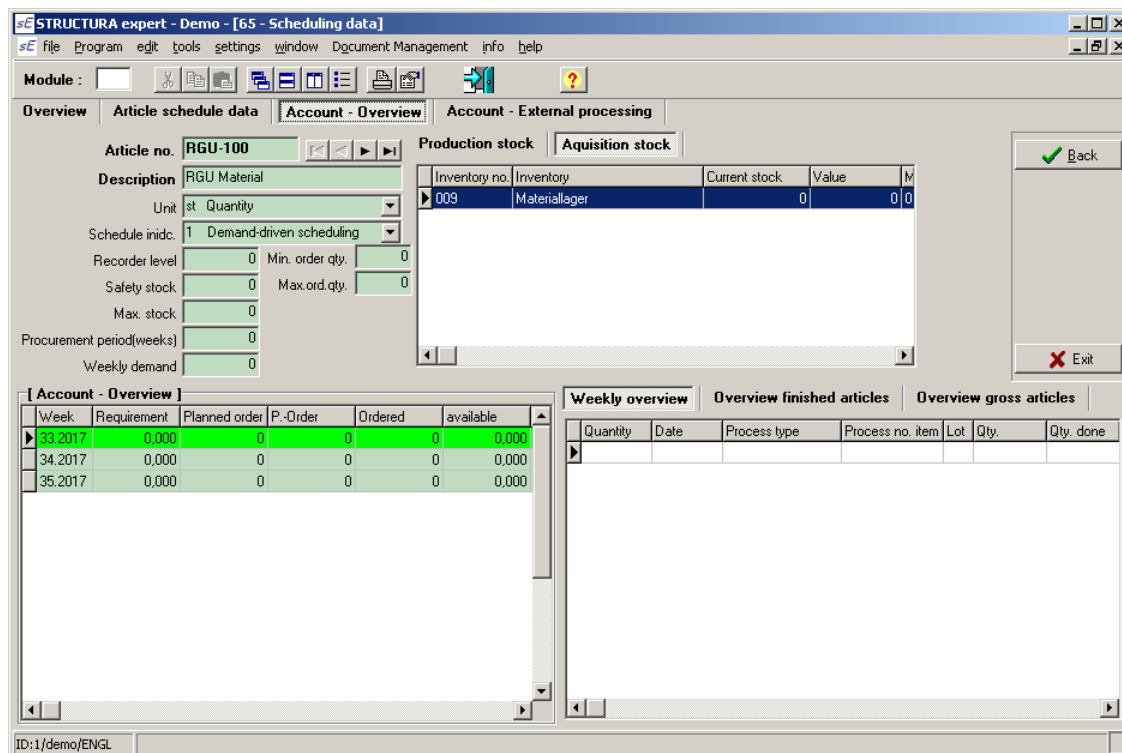
Demand-driven disposition checks the availability of articles based on sales and production demands. If necessary, an automatic order proposal can be started.

Base for automatic order proposals is the article account for each article. The accounts check the following numbers on a weekly base:

- Quantity needed by sales and production orders
- Quantity in order proposals
- Quantity in orders

Procurement periods, recorder levels and ordered quantities are taken into account.

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STRUCTURA expert - Demo - [65 - Scheduling data]

Module :

Overview Article schedule data **Account - Overview** Account - External processing

Article no. RGU-100

Description RGU Material

Unit Quantity

Schedule initc. 1 Demand-driven scheduling

Recorder level 0 Min. order qty. 0

Safety stock 0 Max.ord. qty. 0

Max. stock 0

Procurement period(weeks) 0

Weekly demand 0

Production stock Aquisition stock

| Inventory no. | Inventory | Current stock | Value | M |
|---------------|---------------|---------------|-------|---|
| 009 | Materiallager | 0 | 0 | 0 |

Back

Exit

Account - Overview

| Week | Requirement | Planned order | P-Order | Ordered | available |
|---------|-------------|---------------|---------|---------|-----------|
| 33.2017 | 0,000 | 0 | 0 | 0 | 0,000 |
| 34.2017 | 0,000 | 0 | 0 | 0 | 0,000 |
| 35.2017 | 0,000 | 0 | 0 | 0 | 0,000 |

Weekly overview Overview finished articles Overview gross articles

| Quantity | Date | Process type | Process no. item | Lot | Qty. | Qty. done |
|----------|------|--------------|------------------|-----|------|-----------|
|----------|------|--------------|------------------|-----|------|-----------|

ID: 1/demo/ENGL

Article account

The cause for demand is shown next to the article's quantity in the article account. The system automatically assigns demand-driven material to production orders using the article account. A direct connection to each process (Production or procurement order) is possible.

Procurement order management

Procurement orders can be created from inquiries or purchase requisitions, as well as a direct input of a procurement order.

Each procurement order consists of header and item data. Item data are corresponding articles or services. Required dates and price agreements can be entered at the procurement items. Upon order confirmation by the supplier, the delivery date can be entered to the corresponding item data.

Internal and external forms and texts can be entered into the header and item data.

The following shows some examples of dialogues in the system:

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STRUCTURA expert - Demo - [LA - Bestellungen verwalten]

Module:

Overview | **Purchase header** | Purchase item | Confirmed dev. dates

Order no. Status **0 Recorded** Items **0** Edit mode: **[Insert]**

General | Texts

Order type **0 Material procurement order**

Supplier no. **555 555 55**

Offer no.

Inquiry no.

Language **English**

Our Reference

Order date **21.08.2017**

Currency **EUR**

Exch. rate date **01.09.2008**

Exch. rate **1** (zu EUR)

Buyer no. **004**

Buyer **Mr. Burger**

Contact person

To the attention of

Delivery to

[Conditions]

Delivery conditions **1 Free of charge**

Term of payment **0 None**

Delivery type **1 Transport company**

Form no. **0 Standard form**

[Address]

Indicator **REX**

Adresse name 1 **RGU Expert**

Adresse name 2

Street + house no. **Schweinfurter Str. 28**

ZIP code/city **97076 Würzburg**

Country ID **D Germany**

[Delivery addr.]

Delivery address **555 555 55**

Adresse name 1 **RGU Expert**

Adresse name 2

Street address **Schweinfurter Str. 28**

ZIP code/city **97076 Würzburg**

Country ID **D Germany**

Target print date **21.08.2017**

Actual print date

Booking date

Entry at

Changed at

User

[Framework contract]

☐ Framework contract available

valid from to

Contract no.

General | Purch.dpt castings | Repairs | Invests | Pattern orders | Services

con:1/demo/ENGL

Procurement header dialogue

STRUCTURA expert - Demo - [LA - Bestellungen verwalten]

Module:

Overview | **Purchase header** | **Purchase item** | Confirmed dev. dates

Order no. **11M01016** **001** **RGU-100** **RGU Material** **REX** Status **0 Recorded**

Item overview | Edit item | Texts | Prices | Lots/dates

[Item price]

Order item **001**

Quantity **0,000** < Kg > kilogram

Supplier total price **,00** EUR / Item

Total price ext. **78,00** EUR / **1** < Kg > kilogram

Total price int. **78,00** EUR / **1** < Kg > kilogram

Article no. **RGU-100** **RGU Material**

Dispatch weight (kg) **0,000**

Gross weight (kg) **0,000**

| Item | Price type | Price unit | Base | Inclusive | Price | Unit price | Int. price | Int. unit price | Entry at |
|------|------------|------------|-----------------|-----------|-------|------------|------------|-----------------|------------|
| 1 | Price | /kg | Delivery weight | No | 78,00 | 78,00 | 78,000 | 78,000 | 21.08.2017 |

Price import

Export Price

Import Price

Edit mode: [Edit]

Item **1**

Price type **0000 Price**

Price unit **020 /kg**

Price **78,00** EUR

Price base **0 Delivery weight**

Inclusive price **0 No**

Price/unit **78,00** EUR

Internal price **78,000** EUR

Price/unit int. **78,000** EUR

Entry at **21.08.2017 08:13:41**

Changed at **21.08.2017 08:13:41**

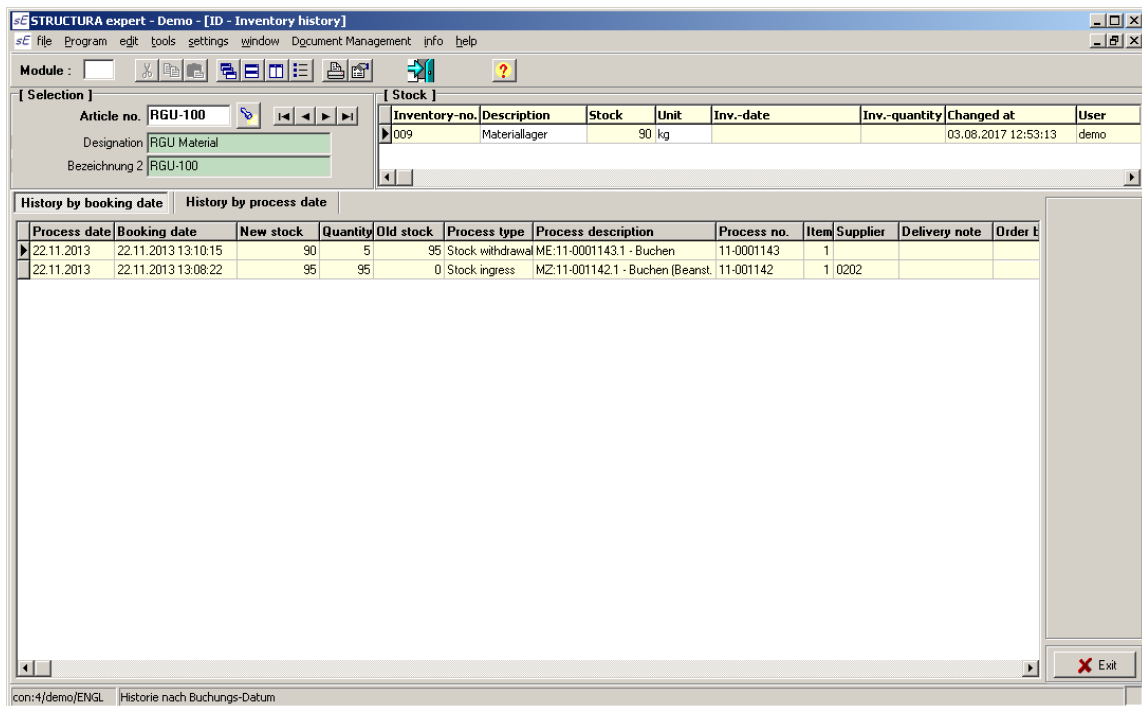
User **demo**

con:1/demo/ENGL

Procurement item data - Prices

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The timely and quantitative development is displayed in the article's stock history.



| Process date | Booking date | New stock | Quantity | Old stock | Process type | Process description | Process no. | Item | Supplier | Delivery note | Order t |
|--------------|---------------------|-----------|----------|-----------|------------------|----------------------------------|-------------|------|----------|---------------|---------|
| 22.11.2013 | 22.11.2013 13:10:15 | 90 | 5 | 95 | Stock withdrawal | ME:11-0001143.1 - Buchen | 11-0001143 | 1 | | | |
| 22.11.2013 | 22.11.2013 13:08:22 | 95 | 95 | 0 | Stock ingress | MZ:11-001142.1 - Buchen (Bearst. | 11-001142 | 1 | 0202 | | |

Article history

Stock ingress invoices

After booking of the stock ingress the incoming invoice can be documented under an internal number. The creation of invoice items from the purchase order or the stock ingress is possible.

After invoice verification, the invoice transfers to financing and accounting, the personnel account and the corresponding incoming goods account.

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STRUCTURA expert - Demo - [M0 - Stock ingress invoices]

File Program edit tools settings window Document Management info help

Module :

Overview Invoice header Invoice items

Invoice no. **1M01102** Status **0 Recorded** Edit mode: **[Edit]**

General

Invoice type **0 Material** Address no. **555 555 55**
 Invoice date **21.08.2017** RGU Expert
 Supplier **555 555 55** REX
 Creditor **555 555 55** REX/
 Supplier invoice no.
 Currency **EUR**
 Tax type (VAT) **1 Input tax 19%** Rate date **01.03.2008**
 Delivery condition **1 Free of charge** Exc. rate **1**
 Term of payment **0 None**
 Payment date **21.08.2017**
 Net goal suppl. **0**
 Incoming invoice date **21.08.2017**
 Service date **21.08.2017**
 Due date **21.08.2017**

[Bank account]
 Bank no. **1**
 Bank name **Bank of Wuerzburg**
 Account no. **0815 4711 247**
 BIC **WUERZUE1WZB**
 IBAN **DE067623000000061**
 SWIFT/BIC

[Total price]
 Net figure **0.00 EUR** Transfer date
 Discount **0.00 EUR** Cash discount **0.00 EUR**
 Freight **0.00 EUR**
 Packaging **0.00 EUR**
 Toll **0.00 EUR**
 VAT **19.00 %**
 Final figure **0.00 EUR**

Status **0 Recorded**
 since **21.08.2017 09:12:01**
 Entry at **21.08.2017 09:12:43**
 Changed at **21.08.2017 09:13:20**
 User **demo**
 Transfer date finances
 Remark
 Edit OK Insert Discard Delete Cancellation Book Generate From mat. ingress From procurement Const. inv. Print Liquidation Exit

con:5/demo/ENGL

Invoices - Stock ingress

STRUCTURA expert - Demo - [M0 - Stock ingress invoices]

File Program edit tools settings window Document Management info help

Module :

Overview Invoice header Invoice items

Invoice no. **1M01102** REX **555 555 55** Status **0 Recorded** Final figure: **0.00 EUR**

Item data Stock ingress Stock withdrawal Prices Info/Texts

[Overview]

| Item | Quantity | Figure (Supplier's currency) | Figure (int. currency) | Total figure | Article no. | Article designation | Procure. order no. | Item li |
|------|----------|------------------------------|------------------------|--------------|-------------|---------------------|--------------------|---------|
| | | | | | | | | |

[Item data]

Mode: **undefined**

Item Invoice type
 Procure. order
 Item
 SV:
 Article no.
 Quantity
 Invoiced procurement
 Inc. stock acc.
 Speiser
 Expense account
 Cost centre
 Figure (Supplier's currency) **EUR**
 Figure (intern. currency) **EUR**
 User
 Changed at
 Entry at
 Booking text finances
 Edit OK Insert Discard Delete

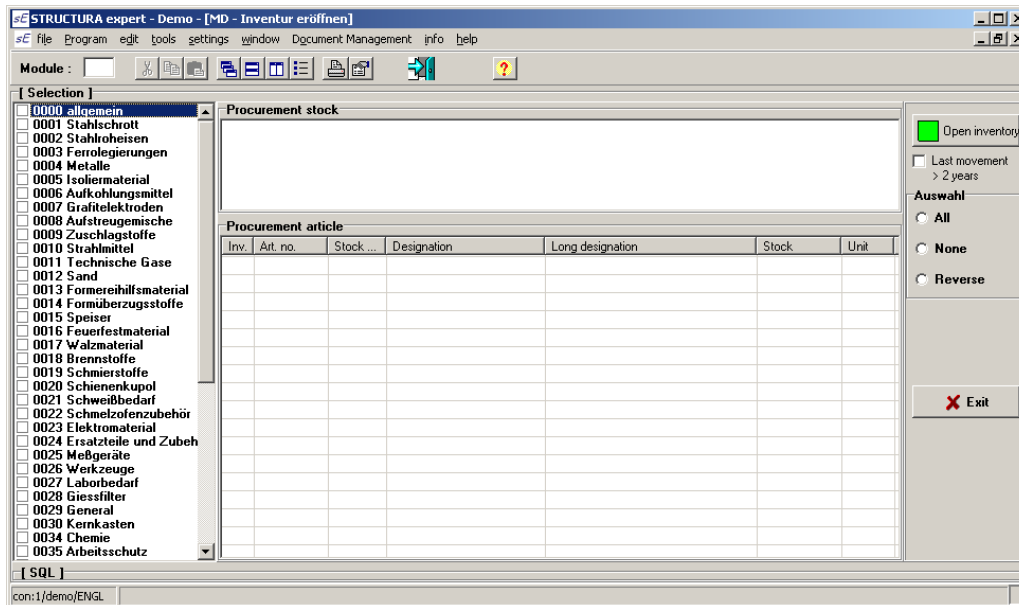
con:1/demo/ENGL

Stock ingress - Item data

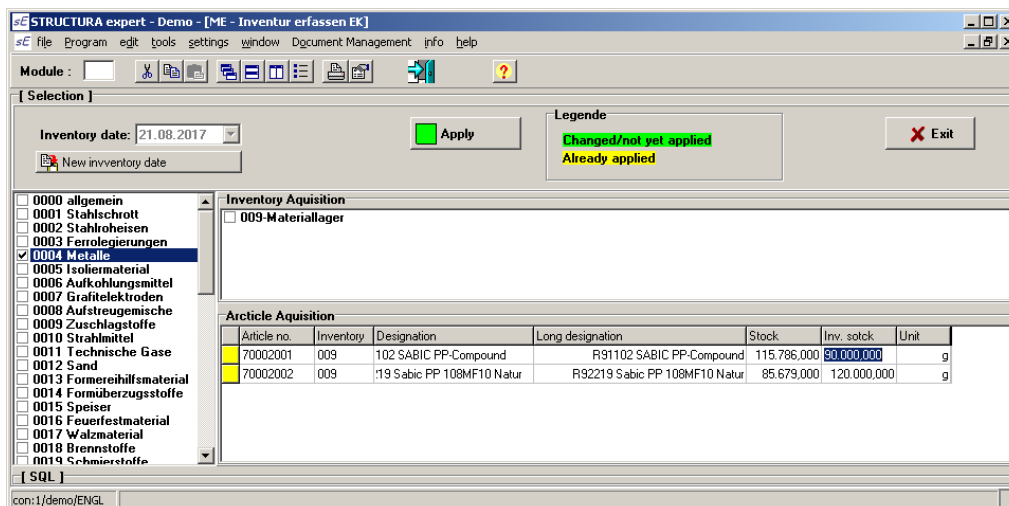
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Material inventory

Inventory across all article groups or just single articles is executable. After counting of the articles, documentation of current and correction of booked stock takes place. The inventory difference in value for each account is transferred then to financing and accounting.



Open inventory



Inventory - Recording and booking

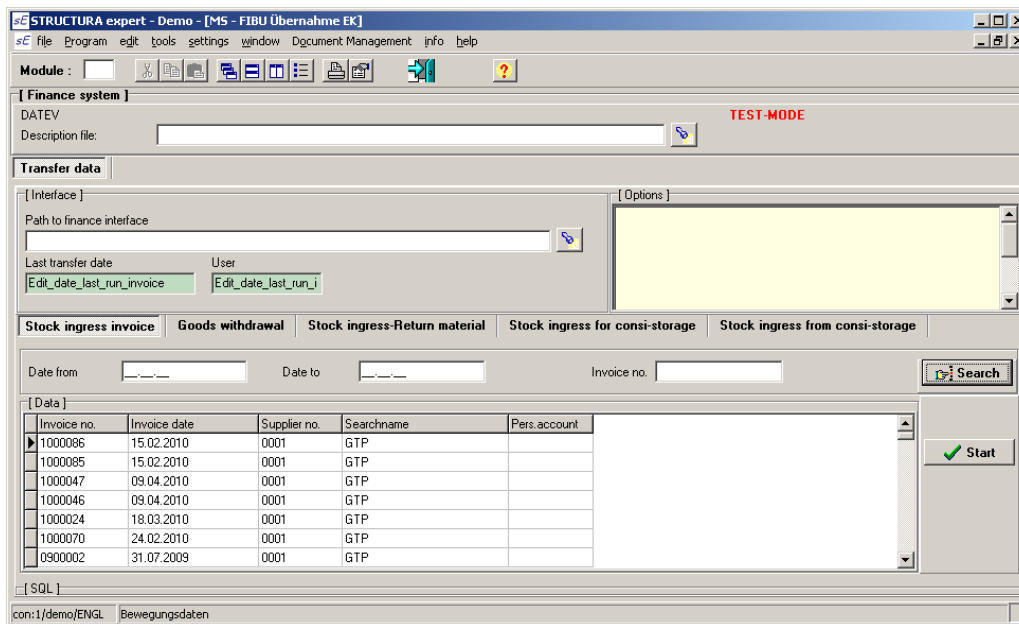


structura – The ERP solution for Plastics processing

Finance and Accounting interfaces

After finishing all necessary process in **structura**, following data can be transferred to Finance and Accounting:

- Stock ingress invoices
- Stock withdrawal and stock ingress Aquisition
- Inventory



STRUCTURA expert - Demo - [M5 - FIBU Übernahme EK]

Module :

[Finance system]

DATEV

Description file:

TEST-MODE

Transfer data

[Interface]

Path to finance interface:

Last transfer date: User:

Edit_date_last_run_invoice Edit_date_last_run_i

[Options]

Stock ingress invoice Goods withdrawal Stock ingress-Return material Stock ingress for consi-storage Stock ingress from consi-storage

Date from: Date to: Invoice no.: Search

[Data]

| Invoice no. | Invoice date | Supplier no. | Searchname | Pers. account |
|-------------|--------------|--------------|------------|---------------|
| 1000086 | 15.02.2010 | 0001 | GTP | |
| 1000085 | 15.02.2010 | 0001 | GTP | |
| 1000047 | 09.04.2010 | 0001 | GTP | |
| 1000046 | 09.04.2010 | 0001 | GTP | |
| 1000024 | 18.03.2010 | 0001 | GTP | |
| 1000070 | 24.02.2010 | 0001 | GTP | |
| 0900002 | 31.07.2009 | 0001 | GTP | |

[SQL]

con:1/demo/ENGL Bewegungsdaten

Data transfer from Aquisition to Finance and Accounting

structura – The ERP solution for Plastics processing**9 Document management**

structura possesses a comprehensive document management.

In the document management system, external documents like technical drawing (as pdf.files), various pictures and office files, customer and supplier documents etc. can be saved in various modules of **structura**.

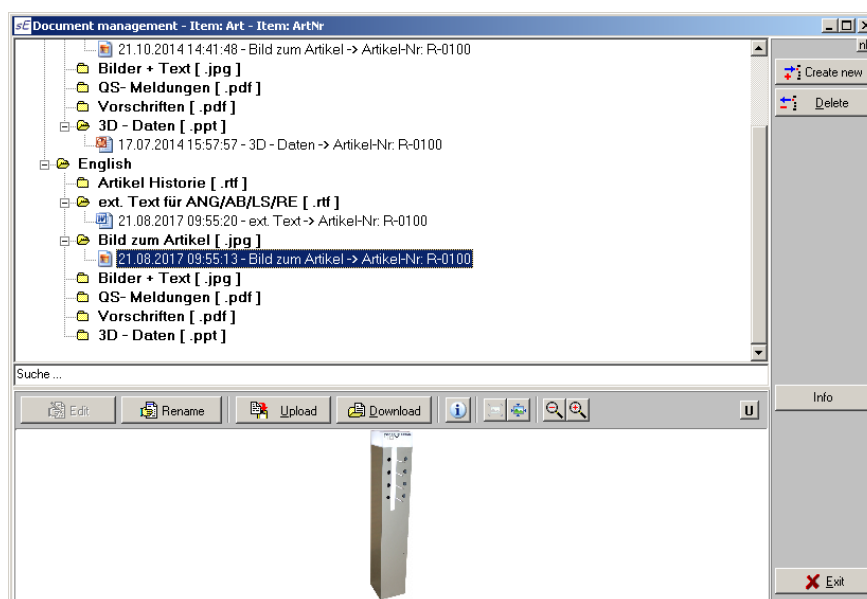
Documents can be saved in the system internal data base.

On top of that, internal and external additions in text form can be created. For these texts, external templates can be used and adjusted, if necessary.

structura verfügt über ein umfangreiches Dokumentenmanagement.

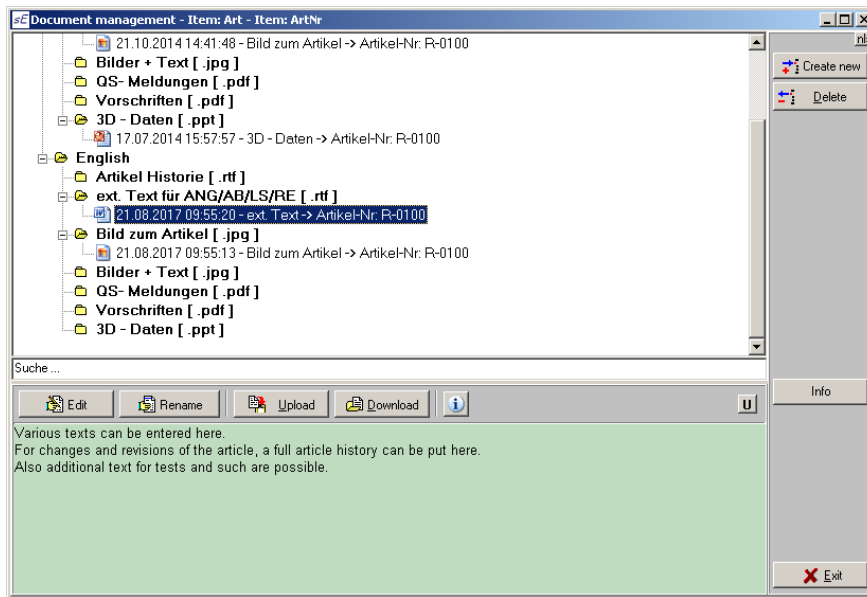
Scope of features

- Saving of following documents and types:
 - external customer and supplier documents
 - Pictures and technical drawings in the article master data
 - Quality instructions
 - various MS-Office files
 - pdf-files (Acrobat Reader not included)
 - texts created with **structura**
- Creation of standard texts like introduction, greetings and finish texts, which can be printed on forms.
- Internal and external texts for master and transaction data



Example of pictures attached to the article master data

structura – The ERP solution for Plastics processing



External texts in the article master data