WELCOME TO MaTrax

…… the BWSC Material Management System for logistics

The Material Management system is an on-line database with a web-based user log-in. The system consists of an input portal and a printing application for the marking and shipping documents.

The objective for the MaTrax system is to track and control the flow of materials from packing to erection on construction sites.

The suppliers are requested to use this system to register materials to arrive to site. All materials arriving to BWSC sites shall be identified with a Material Code label.

The hierarchy of the shipping papers and labeling are as follows:
  – Delivery Note, one note per shipment (lorry, barge, ship)
  – Packing List, one or more lists per Delivery Note
 – Material Code, one or more codes per Packing List

MATERIALS

Each material must be equipped with a MC label

Materials are defined as:
  – Machines, e.g. pumps, motors, filters, burner, sootblower etc.
  – Equipment, e.g. pipes, valves, compensators etc
  – Steel structures, e.g. columns, girders, beams, gratings
  – Process steel, e.g. boiler parts, vessels, tanks etc
  – Consumables, e.g. oil, grease, paint, welding material etc
  – Bulk materials e.g. pipes, fittings, bolts, anchors, insulation, cables etc
  – Spare- and wear parts
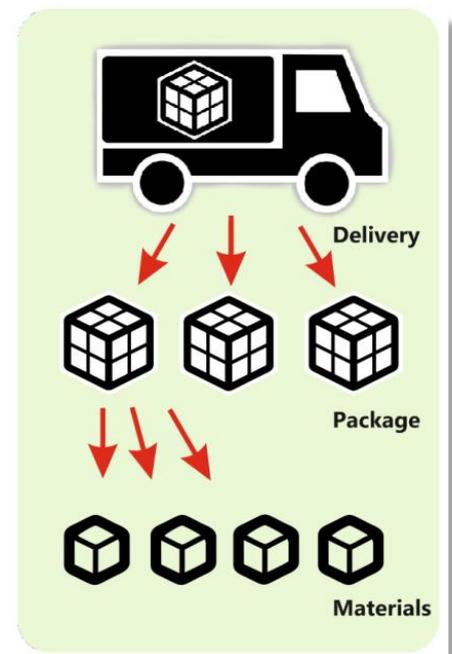
Figure: MaTrax hierarchy

A material code shall be added to all handable items. The material code number will be generated by the MaTrax system and will consist of a 7 digit numeric number starting with 1xxxx. If more equipment or materials are packed together in one package, each material in the package must be marked with a label.

A Material Code shall for instance be added to:
  – An assembly or skid mounted piece of equipment (one label per assembly)
  – All steel members or columns supplied as loose items (one label per item)
  – Bulks such as identical screws, washers, hangers in box, bundle of pipes (one label per box/bundle)

Bulk material is defined as several identical items like bolts, nuts, hangers, rods etc. Identical machines are NOT defined as bulk. 3 identical dampers or 4 identical ducts must have independent Material Codes

📦 PACKAGES

Each package must be equipped with a Packing List.

Packages are defined as:

– A parcel, a pallet, a container, a box, a loose item that needs to be off-loaded

Each item that needs to be hooked, lifted by crane, by truck or by hand is a package. The packing list informs about size, weight, off-loading method and storage condition.

A package can consist of one, or more materials

🚚 DELIVERIES

Each delivery must be equipped with a delivery note

Deliveries are defined as:

– A lorry, a boat, a barge or a parcel supplied by mail or currier

Each shipment that arrives to site is a delivery. The Delivery Note informs about supplier, delivery address and time of arrival.

A delivery can consist of one, or more packages

Example of delivery of very large Item, such as vessels, silos, ducts etc

One package on the lorry — One material in the package

Example of delivery of large Items, such as pump assemblies, smaller tanks, steel girders etc

Several packages on the lorry — One material in the package

One material in the package

One material in the package

Example of delivery of smaller Items, such as pipe bundles, fittings, hangers assemblies etc

Several packages on the lorry — Several materials in the package

Several materials in the package

Several materials in the package

NOTE: Be aware that this is an on-line system, meaning that every time you enter a value, print a page or perform a sorting, the system needs to communicate with the server. Depending on your PC hardware and internet connection there may be waiting time before the value or the command have been processed

SUPPLIER LOGIN:

The first user interface is the login. Each supplier has a unique login credential.

As first user you will have to receive a login mail from BWSC with user name and password. Contact BWSC in case you need access to Matrax

If the login password has been lost, it is possible to receive a new password.
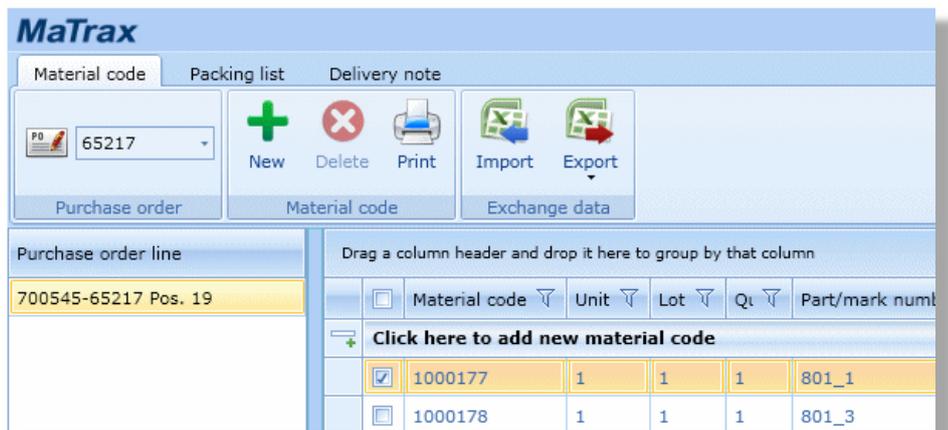
GENERAL NOTES:

When logged in, the first user interface is the Material code apron.

The most upper header contains the three main aprons:
- − Material Code
- − Packing List
- − Delivery Note

These aprons will be described below in detail.

The principal of making a delivery is in general very simple:

Create Material

Create Packing list
…… and assign Material

Create Delivery
……. and assign Packing list

Adjusting columns

All columns can be adjusted simply by clicking on them with left mouse button and dragging in each direction.

⬌
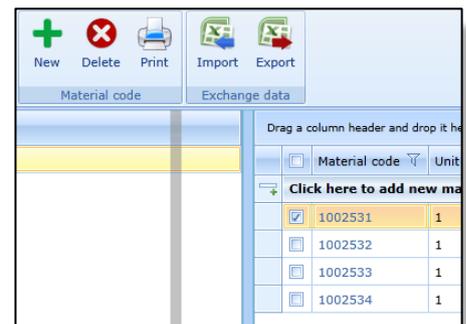
Sorting information's:

I case of many material it can be necessary to sort the information.

It is possible to sort the data by simply clicking the heading lines. This will sort the data alphabetic according to the column clicked.

It is also possible make a more detailed sorting by clicking the 'antenna'. A sorting menu pops up.

It is also possible to drag a column into the header and drop it here. This will sort the information according to the column used.
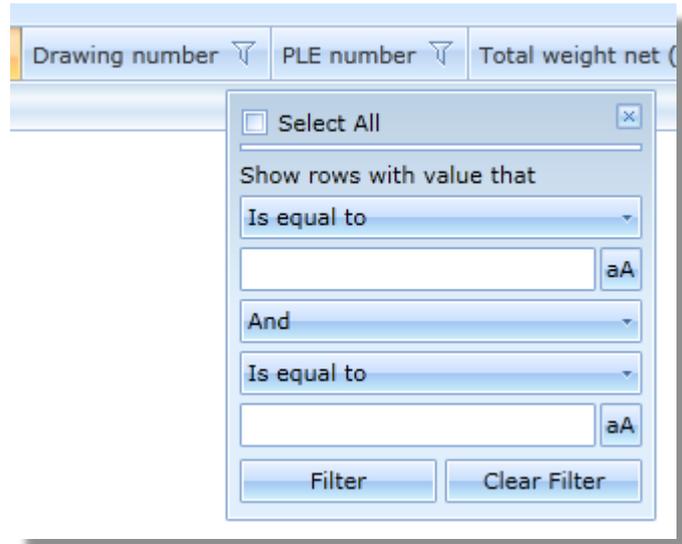
Getting help

In upper right corner it is possible to log out or get help in two ways.
   – The **life ring** opens an online help box to our IT department
   – The **? mark** opens the help notes

THE MATERIAL CODE SHEET:

This is the raw data input page. Here all the materials for each purchase order must be type in (or imported).

The header below includes two boxes

The left box contains a drop down list showing the suppliers available purchase orders (the BWSC purchase no) for the project in question. Choose the purchase order to work with here.
It is only possible to enter materials in one purchase order at a time.

The middle box contains three buttons which function changes from apron to apron:
   – The **New** (material/Packing list/Delivery note) ("+")
   – The **Delete** (material/Packing list/Delivery note) ("X")
   – The **Print** (material/Packing list/Delivery note)

The two latter are only active when a line has been ticked off.

The header includes a third 'Exchange box', an Import/Export option in editable .xml files (see detailed description below)

The container below includes two windows.
- The status window to the left
- The input window to the right

Purchase order line		Drag a column header and drop it here to group by that column										
700545-65156 Pos. 13		☐ Material code ▽	PO no. ▽	Unit ▽	Lot ▽	Quantity ▽	Part/mark number ▽	Drawing number ▽	PLE number ▽	Weight net (kg) ▽	Description ▽	Status ▽
		Click here to add new Material code										

<u>Materials can be typed directly in the input window. This is easy and usable for fewer Materials</u>

Add a new material line by clicking the **New** material button in the header or by clicking the bar "Click here to add a new Material code" in the input window. A new line will be generated and this will be active for input. The first three columns will have default entries. Jump from one cell to the next by using the tabulator. Finish a line by clicking Enter.

NOTE: It is always possible to go back to a material line and alter the content until the material code has been sent to BWSC.

The following values have default entry 1 (one) as these are the most frequent values:
- Unit & Lot, use 1 unless otherwise agreed with BWSC
- Quantity, type quantity in case of identical bulk materials are supplied (screws, nuts, hangers etc.)

It is possible to finalise the line with empty cells, but it will not be possible to print labels with empty mandatory cells.
- Part/mark no is suppliers own number reference, or a position no on the referred drawing
- PLE number is BWSC's work break-down number system (number is informed by BWSC)
- The weight must be given for each item (for bulks with quantity it is for all the items)
- The description entry must be informative so that the relevant material can be identified on site
- The status will alter automatically and inform if the material has been received on site, approved or if there is a non-conformity

It is possible to use simple copy/paste in the cells to e.g. copy the same drawing no. to many materials

Sheet column	Auto generated	Mandatory input	Optional input
Material code	By Matrax		
Unit		Default value 1	
Lot		Default value 1	
Quantity		Default value 1	
Part/mark number		Fill in	
Drawing number			For assemblies
PLE no		To be informed by BWSC	
Total weight		Total weight for all	
Description		Fill in	
Status	By Matrax		
Comment			If more is required
Packing list number	By Matrax		

For more Material inputs there is a better and more quick method using the Import/exporting data files

Using the Import/Export function it is possible to handle many material lines in one operation, and exchange information with suppliers own format.

Clicking the **Export** button a multiple choice box will popup and you can choose from exporting the entire list for editing, or to export a template only. The list will be exported to an editable Microsoft .xml format.

The .xml needs to be saved on your local hard-drive. Chose a path and apply a name like "mc import.xml". Open your file explorer and open the file you just saved.

Use the defined template for importing data to import data to the MaTrax system.

	A	B	C	D	E	F	G	H	I	J	K	L
1	Material code	Unit	Lot	Quantity	Part/mark number	PLE number	Drawing number	Weight net (kg)	Description	Status	Comment	Packing list number
2												
3												

Figure: Exported template

Use the normal export for editing already entered data or use Template to enter new data in the MaTrax system. Data can be edited in same way you normally work in the spreadsheet, and uploaded again.

Leave column A (Material code), column J (Status) and column L (Packing list no) empty. The rest must be filled as described above.
In column H type weight. Use "," for decimal separation. If you type "." 22.5 will be read as 225,0 *(depending on your comma settings in Excel)*
The description Column must not be longer that than 60 characters. A warning message will turn up

	A	B	C	D	E	F	G	H	I	J	K	L
1	Material code	Unit	Lot	Quantity	Part/mark number	Drawing number	PLE number	Weight net (kg)	Description	Status	Comment	Packing list number
2		1	1	1	100-1		2300	6000	Heat Exchanger 61			
3		1	1	1	100-2		2300	6000	Heat Exchanger 62			
4												
5												

Figure: Example of filled in template before import

It is also possible to export an already filled in list, edit it in Excel and re-import it, as MS Excel is a much stronger editor than Matrax. In this case the column A (Material Code) must not be deleted.

It is also possible to add the packing list no to the materials in the Excel sheet, and reimport everything. In this case the packing list nos must be generated first in the Packing List sheet.

Save and close the xml file again. A warning in Excel will tell you that you are saving it in a 2003 version. Click yes to save. Go back to MaTrax and click import. The data will now be imported.

NOTE: The .xml file must be free of any formatting, otherwise import will fail. Remove all formatting by make a 'copy values only' or save the file as a .csv file and re-open in Excel and save as a .xml file. This will remove all formatting.

Printing labels:

When printing the material code labels the materials in question must be ticked off. Tick off the materials and click the print button in the header. A print preview will be generated. Click the print icon once again and print to the default printer. The print can also be saved to a PFD file format by clicking save, and sent by email.

The labels must be printed with waterproof colours on waterproof paper, laminated in plastic or inserted in watertight transparent pockets and placed visible, securely and easy accessible on the goods for easy scanning on site.

It is easier to print the labels from the Packing list sheet if the materials have been assigned to a list.

NOTE: Labels can be defined, printed and mounted on the goods before creation of packing list. Even if the packing list is altered, deleted or material codes are move from one list to another, the material labels remains unchanged.

THE PACKAGE SHEET:

This is the packing list page where materials are assigned to defined packings.

The top header box has the actions:
- The **New packing list** ("+")
- The **Delete packing list** ("X")
- The **Print packing list**

The container below includes two windows.
- The data input window per packing list to the left
- The assign material window to the right

Add a new packing list by clicking the **New** list button in the header.

Packing list	Description	☑	Unassigned material codes										
			Drag a column header and drop it here to group by that column										
2000997	Straw conveyor #1	☑	Material code	PO no.	Position	Unit	Lot	Quantity	Part/mark number	Drawing number	PLE number	Weight net (kg)	Description
			1003818	65156	13	1	1	1	Part 112	13053-0100152	4100	5500	Straw conveyor #1

A new line will be generated in the left window below and the belonging input window below will be active for input. Jump from one cell to the next by using the tabulator. Finish a line by clicking Enter.

NOTE: It is always possible to go back to a packing list and alter the content until the package list has been sent to BWSC. Material labels are not affected by altered Packing Lists

Three handling and store informations are required.
Use these for entering
  – Storage type
  – Packing type
  – Unloading method

Storage on site	Outdoor
Type of package	Unpacked
Unloading method	Crane

All the values are mandatory entries.
Furthermore, the following data must be given:
  – The gross weight must be entered in kg, and be larger or equal to the net weight
  – Dimensions must be entered in cm unit
  – The description entry must be informative so that the relevant package can be identified on site

*NOTE: The net weight is automatically made by adding the weights of the Materials included*

It is possible to finalise the list with empty cells, but it will not be possible to print list with empty mandatory cells.

After entering the input data, materials must be assigned to the packing list. Unassigned materials are listed in the upper window. Packing list content is listed in the lower window. Assign materials simply by dragging them to the packing list window, and drop them here. It is possible to choose several materials by using the ctrl or shift function. It is possible remove un-assign materials again by pulling them back

NOTE: It is also possible to assign Materials to packing list via the export file.

Printing lists:

When printing the packing lists the lists in question must be ticked off. Tick off the list(s) and click the print button in the header. A multiple choice box will popup and you can choose from printing only the list(s), or the list(s) and all related material codes.
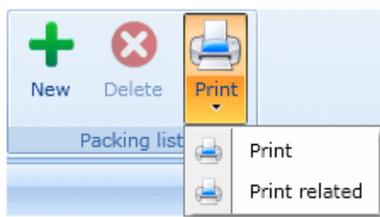
A print preview will be generated. Click the print icon once again and print to the default printer.

Several lists can also be printed related to a delivery note, see more on the delivery note page.

The labels must be printed with waterproof colours on waterproof paper, or inserted in watertight transparent pockets and placed visible and easy accessible on the goods for easy scanning on site.

THE DELIVERY SHEET:

This is the delivery note page where packing lists are assigned to defined deliveries.

Here the top header box has the actions:

- The **New delivery note** ("+")
- The **Delete delivery note** ("X")
- The **Print delivery note**

The container below includes two windows.
- The data input window per delivery note to the left
- The assign package window to the right

Add a new delivery note by clicking the **New** list button in the header.

Delivery note		Unassigned packing lists									
		Drag a column header and drop it here to group by that column									
3000407	☑	Packing list	Storage on site	Type of package	Unload method	Net w. (kg)	Gross w. (kg)	Length (cm)	Width (cm)	Height (cm)	Description
3000408	☐	2000997	Outdoor	Unpacked	Crane	5500,0	5500,0	820	220	240	Straw conveyor #1

A new line will be generated in the left window below and the belonging input window below will be active for input. Jump from one cell to the next by using the tabulator. Finish a line by clicking Enter.

Before entering dispatch dates, packing lists must be assigned to the delivery note. Unassigned packages are listed in the upper window to the right. Delivery note content is listed in the lower window. Assign lists simply by dragging them to the delivery window, and drop them here. It is possible to choose several lists by using the ctrl or shift function. It is possible remove un-assign lists again by pulling them back.

NOTE: It is always possible to go back to a Delivery Note and alter the content until the note has been sent to BWSC. Packing Lists and material labels are not affected by altered Delivery Notes. Even if the Delivery Note is altered, deleted or Packing Lists are move from one note to another, the Packing Lists remains unchanged.

The delivery information's must be filled in depending on the INCO terms of the contract.

If the order is a AB Werk without transportation the 'Ready for Shipping date' must be filled in only, and the 'Delivery Ready' must be clicked.

If the order is a DDU of DDP including transportation the 'Arrival date' must be filled in only, and the 'Delivery Ready' must be clicked.

Delivery note details	
Created date	23-10-2012
Ready for approval	Delivery note ready
Ready for shipping	25-10-2012
Shipping status	Not shipped
Arrival date	15-12-2012

When entering the date and clicking the button "Delivery ready" above, the information is sent to BWSC that the shipment is ready for sending.

The button will now change wording to "Waiting for approval"

The sending must be approved by BWSC before any further action can take place. When approved by BWSC the button will change wording to "Approved" and a date.

It is not allowed to send equipment to BWSC site without approval from BWSC. If logistics on site for receiving the goods is not available, BWSC can ask the supplier to postpone the shipment. In this case the delivery note will not be approved.

When clicking the Delivery ready button, the Delivery Note will be locked for editing, except for the arrival date. This also means that all related Packing List will be locked, and all related Material Codes will be locked. The letters will turn from black to grey for all locked information.

If an error has been detected after sending the note for approval, it is still possible to alter this by contacting BWSC. BWSC will the release the note and the data can be corrected. After this the delivery note will need to be sent for approval once again.

When the shipment leaves the supplier, the **Shipped** button must be clicked. This will generate a shipped date in the system (date of clicking the button)

NOTE: The arrival date can be changed even after the delivery has been shipped. If a shipment is delayed on the road, or goes faster than anticipated, the supplier is requested to update the arrival date. Other information's cannot be edited after sending.

Printing lists:

When printing the delivery notes the notes in question must be ticked off. Tick off the note(s) and click the print button in the header. A multiple choice box will popup and you can choose from printing only the note(s), or the note(s) and all related packing lists and material codes.
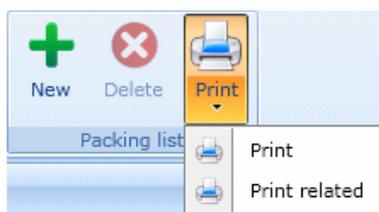
A print preview will be generated. Click the print icon once again and print to the default printer.

The labels must be printed with waterproof colours on waterproof paper, or inserted in watertight transparent pockets and placed visible and easy accessible on the goods for easy scanning on site.