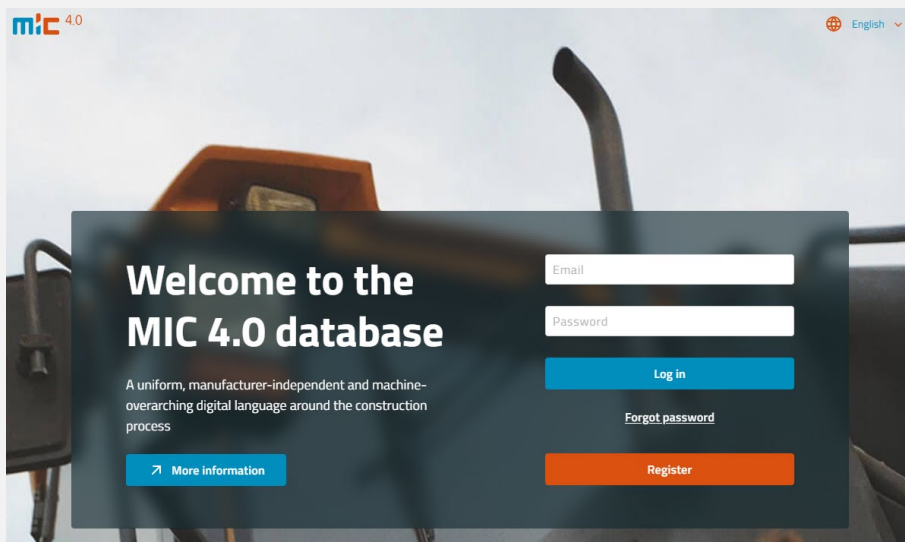


MiC 4.0 Database



August 2024

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MiC 4.0 Database

Introduction

The MiC 4.0 database is a collection and listing of all types of construction machinery and their ability to send digital information, which was jointly agreed by all stakeholders in the value chain in the "Machines in Construction MiC 4.0" working group.

The database allows the machines to be listed individually according to machine type, manufacturer, transferred data and other attributes, enabling the user to obtain a comprehensive picture of whether and to what extent a required machine fits into the existing machine pool and can be integrated into the software structures used.

One advantage of this approach is that the machine types can be compared independently of each other. This allows the user to identify the machines/their digital information that are required and suitable for their construction processes.

The MiC 4.0 database can be used free of charge by anyone interested after a short registration process.

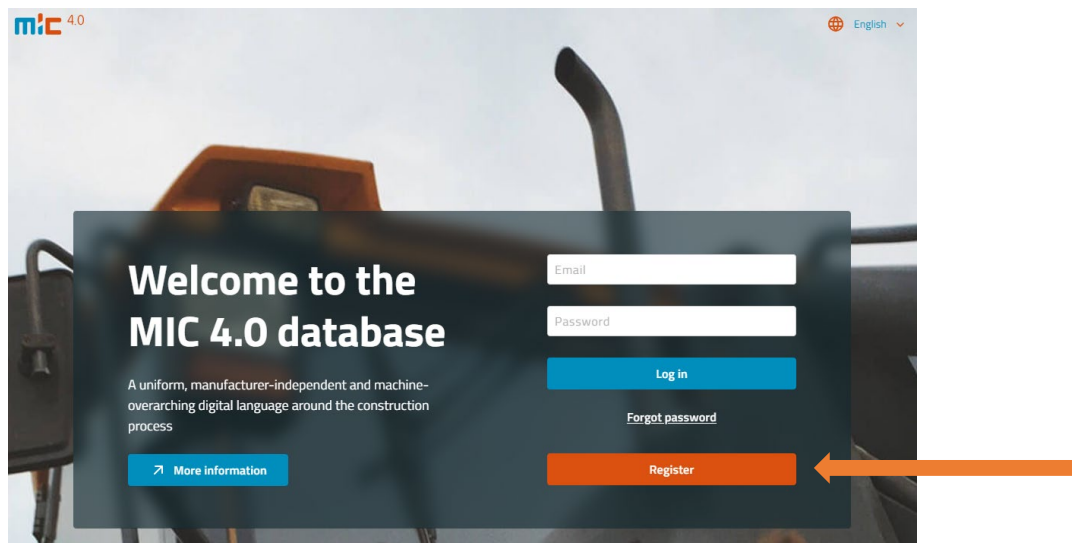
The examples shown (screenshots) may differ in the real application, because the MiC 4.0 database will be updated regularly.

However, the basic functionalities described here remain unaffected. Extensions to the functionalities are for the user's benefit.

MiC 4.0, September 2024

1. Registration

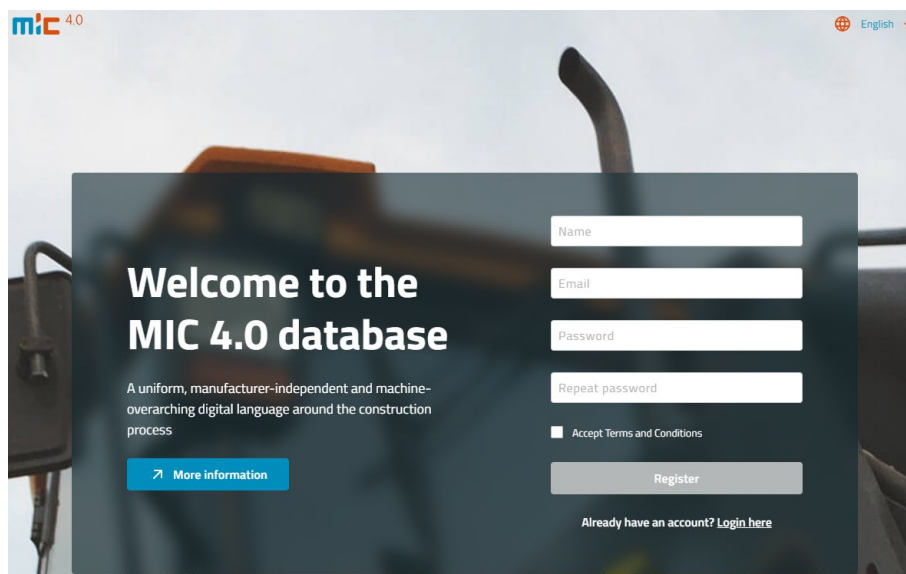
To be able to use the MiC 4.0 database, the "Register" button on the start page must be used at the beginning.



After clicking the button, you will be asked to enter the registration data.

The required data must be entered completely and truthfully, otherwise the registration process cannot be completed.

The general terms and conditions must also be recognised by ticking the appropriate box.



Once the registration request has been sent, the request will be checked and a corresponding message with activation will be sent so that the requested access can be used.

Once the access data has been sent, the login via the MiC 4.0 database start page is possible.

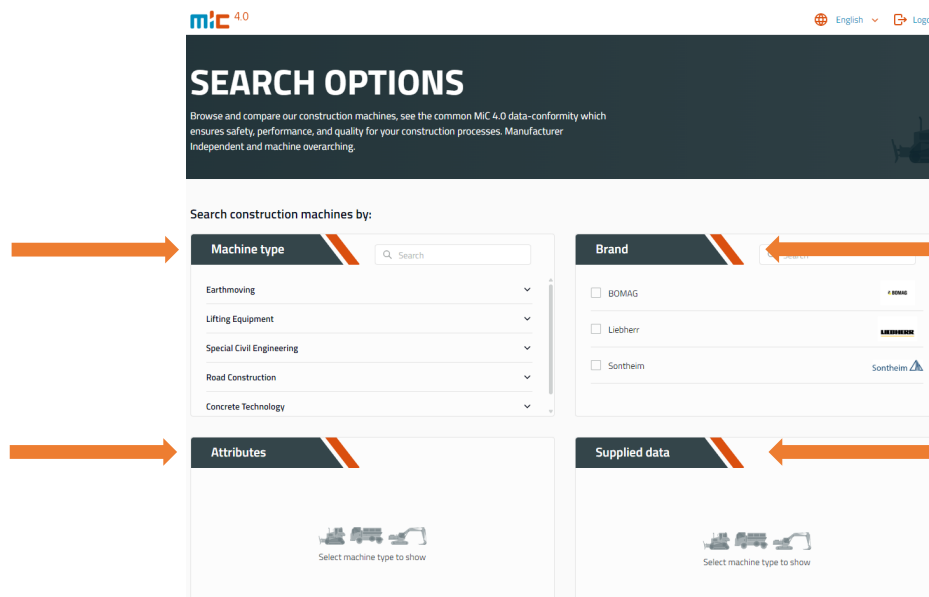
2. Start page – Machine search

After logging into the MiC 4.0 database, the top input level opens.

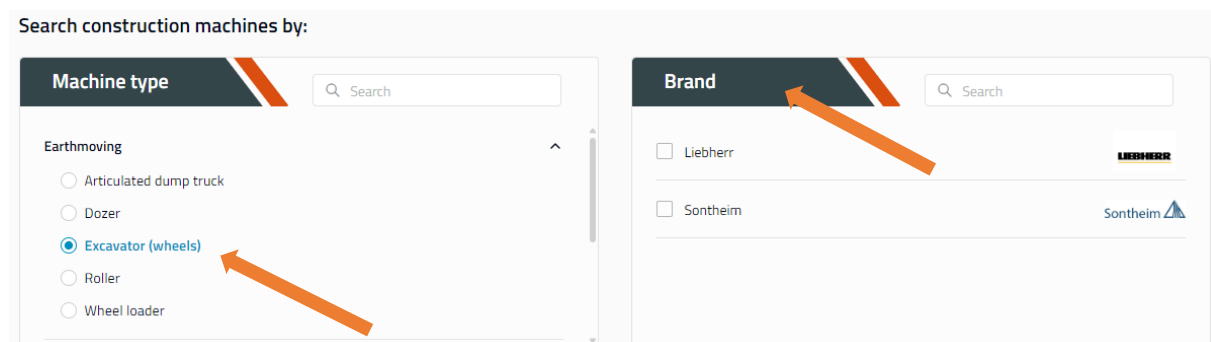
German or English can be selected in the top bar and there is also a logout button to exit the MiC 4.0 database.



In the centre of the start page, the selection can be made according to the current classification of the MiC 4.0 machine clusters, the machine types, the manufacturers, the properties of selected machines and the data supplied for the selected machines.



The most obvious criterion for searching for machines is the machine type. These can be selected in the first search window at the top left. Depending on the machine type selected, further selection suggestions are offered to specify the type of machine being searched for in relation to the machines in the database.



Depending on the machine selected, the window next to it displays the machine manufacturers who have entered machines in the MiC 4.0 database and who have data on the digitally available information in accordance with the common MiC 4.0 specifications.

If no manufacturer is specified by clicking, all manufacturers of this machine type in the database are listed.

The respective parameters of the selected machine can be specified in the "Attributes" selection window. The frame that includes all machines of this type in the database is suggested. If no narrow selection range is specified, all machines of this type in the database are listed.

The image shows two side-by-side panels. The left panel, titled "Attributes", contains two rows of filters. The first row is for "kW" with a range from 10 to 80. The second row is for "Weight" with a range from 10000 to 19000. An orange arrow points to the "Weight" label. The right panel, titled "Supplied data", is a scrollable list of data points: "Machine header Information", "Last known location", "Operating hours", "Cumulative fuel used (preferred)", and "Fuel used in the preceding 24 hours (alternative, not preferred)". An orange arrow points to the "Operating hours" entry.

In the adjacent "Options" selection window, you can select specific data points and search for machines that support this data output. The individual data fields/options can be opened using the small triangle on the right-hand side of the selection window.

If desired, you can select one or more options according to which machines are to be selected and filtered. With this type of narrower and more targeted search, you will explicitly receive only those machines that provide exactly the data fields you have specified. If no selection is made, all machines of the selected type/manufacturer are listed.

Use the "Search" button at the bottom of the page to start the desired search selection.

This image shows the same two panels as the previous screenshot. In the "Supplied data" panel, the "Operating hours" option is now checked with a blue checkmark, and an orange arrow points to this checkmark. At the bottom of the interface, an orange arrow points to a large orange button labeled "Search".

3. Search results

After clicking the "Search" button, the machines are selected from the MiC 4.0 database based on the search parameters entered.

Search

EXCAVATOR (WHEELS): 2 results

Machine type

Brand

Search

BOMAG

Liebherr

Sontheim

Attributes

Supplied data

Search

LIEBHERR Earthmoving:R926 Compact:1299

Sontheim Sontheim Test Vehicle 2

Using the two selection buttons for the display (top right), it is possible to switch from the top display to a display with extended information.

Search

EXCAVATOR (WHEELS): 2 results

Machine type

Brand

Search

BOMAG

Liebherr

Sontheim

Attributes

Supplied data

Search

LIEBHERR Earthmoving:R926 Compact:1299

Model	Earthmoving:R926 Compact:1299
Production year	2022
Production month	1
Mi C,4.0,ready	Compatible
Machine software,version	1
Machine information	1
BGL device	
BGL parameter	

Sontheim Sontheim Test Vehicle 2

Model	Sontheim Test Vehicle 2
Production year	2024
Production month	4
Mi C,4.0,ready	Compatible
Machine software,version	2.0.0
Machine information	Test
BGL device	
BGL parameter	

Of course, it is also possible to open the four fields "Machine type", "Brand", "Attributes" and "Options" at this point in order to renew the selection criteria and start new search queries.


4. Machine comparison

If the search returns two or more results, the selected machines (maximum 3) can be compared with each other by clicking on the "COMPARE" selection box.

Compare Excavator (wheels):

Select at least 2, up to 3 machines to compare


Compare (2)



COMPARE

Liebherr

Earthmoving:R926
Compact:1299



COMPARE

Sontheim

Sontheim Test Vehicle 2

Search

Machine type

Brand

BOMAG

Liebherr

Sontheim


Attributes

Supplied data

Search

EXCAVATOR (WHEELS):


2 results ☰ ☰



Liebherr Earthmoving:R926 Compact:1299

COMPARE

Model	Earthmoving:R926 Compact:1299
Production year	2022
Production month	1
Mi C,4,0,ready	Compatible
Machine software,version	1
Machine information	1
BGL device	1
BGL parameter	



Sontheim Test Vehicle 2

COMPARE

Model	Sontheim Test Vehicle 2
Production year	2024
Production month	4
Mi C,4,0,ready	Compatible
Machine software,version	2.0.0
Machine information	Test
BGL device	
BGL parameter	

Click on the "Compare" button for a complete comparison of the selected machines.

Compare Excavator (wheels):

Select at least 2, up to 3 machines to compare

Compare (2)



COMPARE

Earthmoving:R926
Compact:1299



COMPARE

Sontheim Test Vehicle 2

Technical Data:

	Earthmoving:R926 Compact:1299	Sontheim Test Vehicle 2
Production year	2022	2024
Production month	Compatible	Compatible
MiC 4.0 ready	Compatible	Compatible
Machine software version	1	2.0.0
Machine information	1	Test
BGL device		
BGL parameter		
kW	10	90
Weight	10000	19000

Supplied data

Machine header information	Earthmoving:R926 Compact:1299	Sontheim Test Vehicle 2
Telematics unit installation date	x	x
Equipment make	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Equipment model	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Equipment ID	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Serial number	<input checked="" type="checkbox"/>	x
OEM ISO identifier (PIN or VIN)	x	<input checked="" type="checkbox"/>

At the end of the comparison list is the "Cancel selection" button, which closes the current comparison list. It is possible to print out the displayed comparison list by clicking on the "Print" button.

Depending on the connected printers, output as a PDF file is also possible. The personal output options of the access device used must be checked and, if necessary, synchronized with the in-house IT department.

The screenshot displays a comparison interface with two main sections. The top section, titled "Data field descriptions for codes unique to each system", lists various data fields with checkboxes for selection. Two orange arrows point from the "Unit of measure for ambient air temperature" and "Description of code source" rows to the "Clear selection" and "Print" buttons respectively. The bottom section shows search results for "EXCAVATOR (WHEELS):" with 2 results. The first result is "Earthmoving:R926 Compact:1299" and the second is "Sontheim Test Vehicle 2".

Data Field	Field 1	Field 2
Cumulative non-productive regeneration hours	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Cumulative idle non-operating hours	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Diagnostic trouble code identifier	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Date and time of code	<input type="checkbox"/>	<input type="checkbox"/>
Code severity	<input type="checkbox"/>	<input type="checkbox"/>
Code description	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Unit of measure for ambient air temperature	<input type="checkbox"/>	<input type="checkbox"/>
Ambient air temperature at time when code was triggered	<input type="checkbox"/>	<input type="checkbox"/>
Description of code source	<input type="checkbox"/>	<input type="checkbox"/>

Buttons: Close comparison, Clear selection, Print

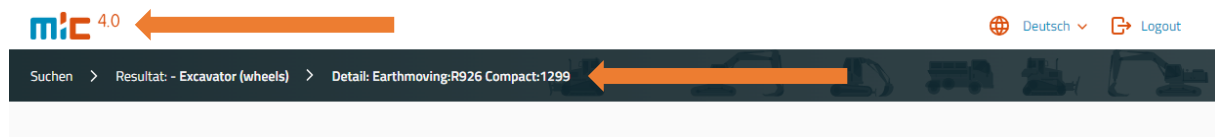
Search filters: Machine type, Brand (BOMAG, Liebherr, Sontheim), Attributes, Supplied data

Search results: EXCAVATOR (WHEELS): 2 results

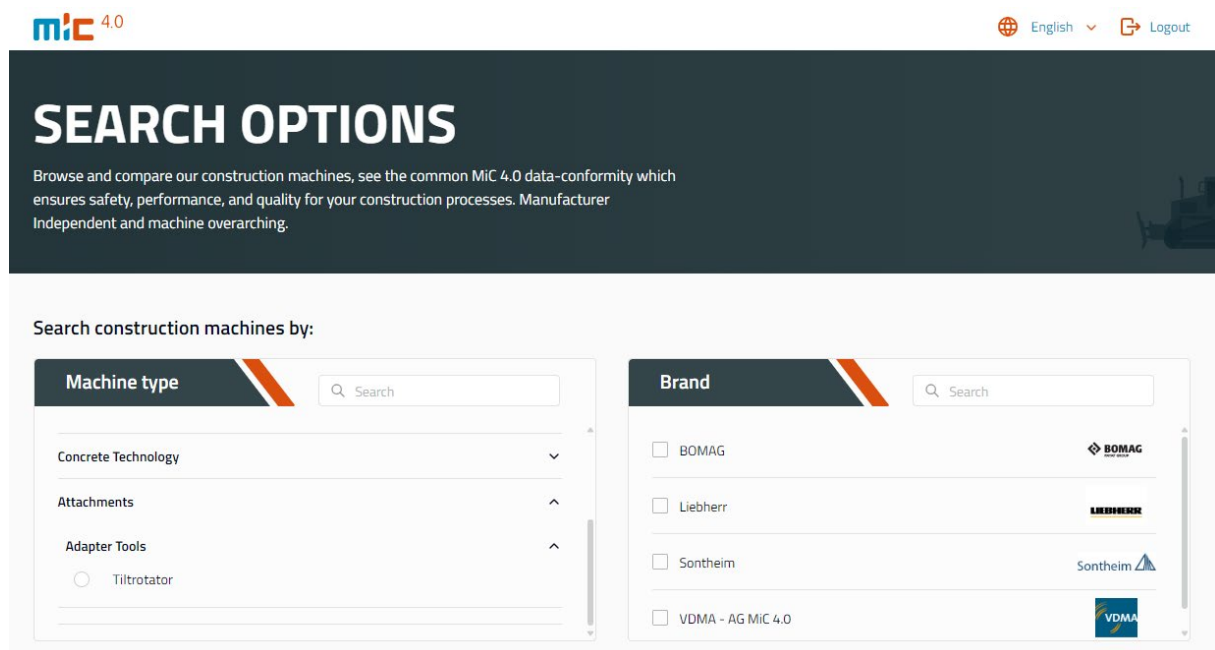
Image	Brand	Model	COMPARE
	Earthmoving	Earthmoving:R926 Compact:1299	<input checked="" type="checkbox"/>
	Sontheim	Sontheim Test Vehicle 2	<input checked="" type="checkbox"/>

The descriptions at the top left clearly show where the user is currently located in the database. These descriptions can also be used for navigation by clicking on them.

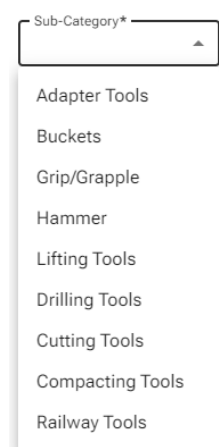
Pressing the "MiC 4.0" button takes you to the start page of the database and you can start the search again.



Attachments can also be found in the MiC 4.0 database. Just like the selection of machines, the attachments are also selected, displayed and can be compared with each other. This selection can be made under "Machine type".



The attachments are divided into sub-categories and are mapped in the MiC 4.0 database according to the available categories. As with the machines, comparisons between the selected attachments are also possible here (see "4. Machine comparison").



Machines in Construction MiC 4.0

Lyoner Straße 18
60528 Frankfurt/Main

Telefon: +49 69 6603 1205

E-Mail: info@mic40.org

Internet: mic40.org

