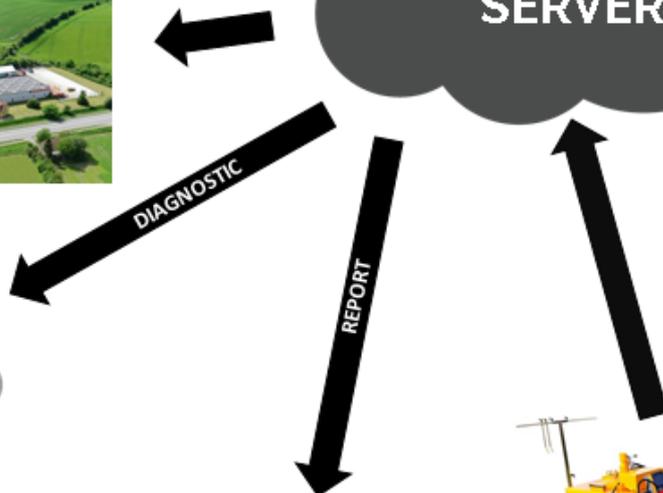


BM ONLINE®



WELCOME TO THE ONLINE WORLD!

We are happy to have you on board for the first online fleet management tool dedicated to road marking professionals.

The BM Online is a web portal that has been developed to help you get a better overview of your road marking machines and activity right from your computer, tablet or phone.

With BM Online you will be able to see online data collected from the BM LineMasters and Master Control found on your Borum machines. This will make it easy to keep track of the machine's activity, be notified if any parts of the machines are overheating and even set service notifications from your desk or on the go.

Furthermore, reporting will be much easier to handle as you can export all this data with the push of the button from the BM Online web portal.

We hope you enjoy the BM Online experience!

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1. SYSTEM OVERVIEW: WHAT IT DOES & HOW IT WORKS

1.1 The System

The Borum Online is a Web portal designed for Borum Machines and Trucks.

Diagnostic data from the machine/truck will be sent to the LineMaster. (Only machines with the Master Control can send data to the LineMaster.)

Report data from the LineMaster, together with the received diagnostic data from the machine/truck is then sent to a Borum Server.

These data can be accessed via the Web portal, in the sections called BM Online ® Report and BM Online Diagnostic.



1.2 BM ONLINE®REPORT

The BM Online ® Report is a Web portal that collects reported data from the BM LineMaster.

The reported data that is generated from the BM LineMaster is stored in BM-Online. You can access data and generate reports by entering the BM Online Web portal. If data is deleted from the LineMaster, data will still be stored in BM-Online (data will be stored for 5 years). Reports can easily be generated, by the Web interface in BM Online.

LineMasters from Serial no: 73-xxxx supports BM Online.

It is possible to update LineMasters with Serial no: 72-xxxx to BM Online Report (P#512836).

Advantages:

- Reports from LineMaster available Online
- Location of the machine (When Ignition is On)
- Possibility to sort the data according to Equipment ID, Job ID, Date, etc. and generate reports
- Possibility to manually compare the data, with other available on-line data. E.g. meteorological data
- Generate reports as CSV file (Excel), PDF file or KLM file (Google Earth)
- No data loss. All information is saved on the Server for minimum 5 years

1.3 BM ONLINE® DIAGNOSTIC

The BM Online® Diagnostic is a Web portal that allows you to easily get an overview of your Borum machine/Truck activities from your laptop, tablet or phone.

In order to collect and make the data available online, the Borum machine needs to have the BM Master Control installed. The Master Control collects the data from the Machine and sends it to the LineMaster computer. Afterwards, this data is made available in your own account on the BM-Online platform.

Diagnostic data from the Machine is stored on the BM-Online platform for minimum 5 years. This means that you can always access that data and generate reports by accessing your BM Online account.

You can also opt to receive a notice by SMS or e-mail 20 hours before the next service, or if the engine, the compressor or the hydraulic oil is overheating.

Borum can also access the diagnostic data, which allows us to better understand your needs. Therefore, we can offer improved support and more efficient solutions, e.g. by foreseeing the need for spare parts, which will improve delivery time.

Advantages:

- Tool for planning service schedules
- View of the condition of the machine to prevent breakdown
- Possibility to receive the best support from Borum
- No loss of Data

1.4 SPECIFICATIONS

Communication (Modem type)

GSM 3G (Global System for Mobile Communication 3. Generation)

Satellite navigation

GPS (Global Position System)

System Interface

Web (Access from a web browser installed on a laptop, tablet, phone or other)





2. GETTING STARTED

2.1. Accept the terms concerning user of BM Online

Before you can start you will need to sign the agreement concerning BM Online. When Borum have received your signed agreement, you will receive an e-mail with a link where you can finalize your account for accessing the platform.

2.2. Activating your Borum Online

Please follow the link you have received. Here you will need to fill in the Confirmation on the Borum Online



Confirmation
Please enter your information

Email

Password *

At least 6 characters and at least one lowercase and one uppercase and one digit.
Confirm Password *

First Name *

Last Name *

Company

Job Title

I have read and agree to the following [Terms and conditions](#)



Here you e-mail will be shown



You must enter the password you want



You must confirm your password



You must enter your first name



You must enter your last name



You can enter your Company name



Your can enter your Job Title



You must read the Terms and conditions , and confirm you agree.

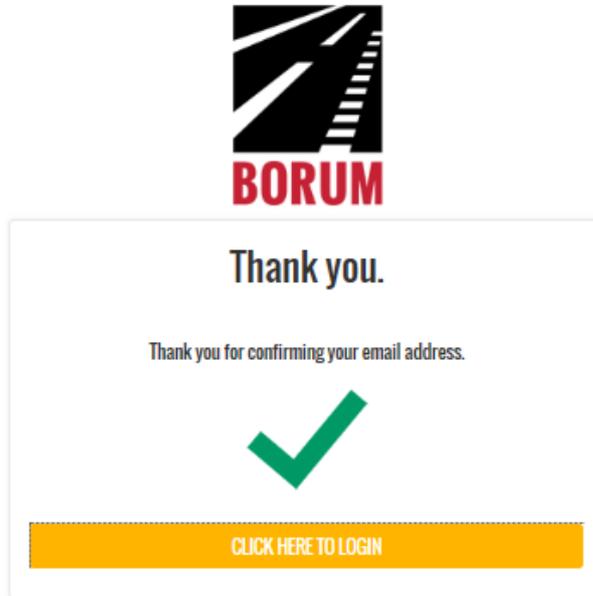


You must remember to save

2.3. Login

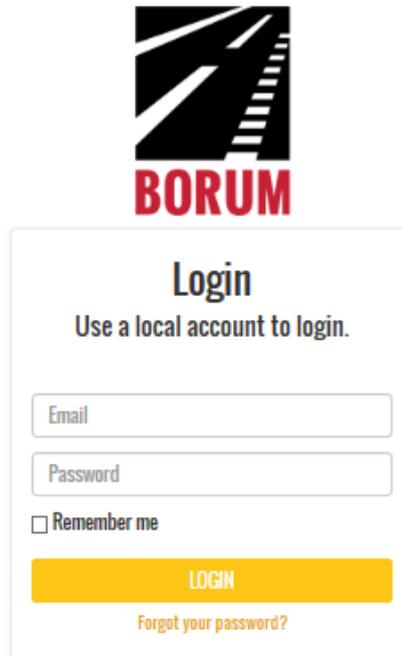
When you click on , in the Confirmation section.

You will be linked to this:



Now Click on: , and you will be linked to the Login page.

We recommend to add the BM Online page as a favorite page in your web browser, so you easily access the login page next time. Link for Log in Page: <http://bmonline.borum.as/Account/Login>



Enter your e-mail address and your password, and click  to login. Now you will enter your web portal.

2.4. Edit your profile

You can edit your profile by clicking at  located in the upper right corner
As a Borum Customer your "Universal roles" will be "Customer Main"

Now Click on  , to edit your profile.

Johnny Jørgensen



Password	*****
First Name	Johnny
Last Name	Jørgensen
Email	mars19_johnny@hotmail.com
Company	Borum
Job Title	Tester
Phone	
Universal Roles	- Customer Main
Groups	TEST



Your profile already contains the data that you entered in the Confirmation section.
You can now edit these data.

Your Universal Roles is set by Borum to "Customer Main" and it cannot be changed unless agreed otherwise with Borum.

The section Group is also set at Borum. The Group will be your Company or organization.

You can enter a picture, by double clicking at 

You can choose if you want an alarm notice sent by E-mail and/or SMS.
If you want it to be sent by SMS, you will need to enter your mobile number in your profile.

Edit Profile

User Profile

Email mars12.johnny@hotmail.com	Phone +45 51503750	 Browse... Johnny Jorgensen.jpg
Password Set Password	Language English	
First Name * Johnny	Country Denmark	
Last Name * Jorgensen	Time Zone UTC-01:00 Brussels, Copenhagen, Madrid, Paris	
Company Borum	Last Login Thursday, February 2, 2017	
Job Title Tester	Units <input checked="" type="radio"/> Metric System <input type="radio"/> Imperial	
City Hadsten	Universal Roles <input type="checkbox"/> Borum <input type="checkbox"/> Borum Technician <input type="checkbox"/> Dealer Main <input type="checkbox"/> Dealer Admin <input type="checkbox"/> Dealer Technician <input checked="" type="checkbox"/> Customer Main <input type="checkbox"/> Administrator <input type="checkbox"/> Roadmarker / Technician <input type="checkbox"/> Roadmarker <input type="checkbox"/> Technician <input type="checkbox"/> Customer	
Created Date Thursday, February 2, 2017	Groups TEST	
<input checked="" type="checkbox"/> SMS Alarms		
<input checked="" type="checkbox"/> Email Alarms		
<input checked="" type="checkbox"/> Active		

[Save](#) [Cancel](#)

Remember to click  when done.



3. BM REPORT

3.1. Overview

BM REPORT can be found under the section Linemasters.



- To enter this portal you must click on
- Now you will have an overview of the Linemasters in your BM Online.
- You can see a map with the Linemasters location.
- The Linemasters are arranged in a List, and you can arrange the list according to Status,
- Linemaster serial number, Machine serial number etc.

The screenshot shows the BORUM Linemasters interface. At the top left is the BORUM logo. Below it is a navigation menu with 'Linemasters' selected. The main area features a world map with a red 'Offline' marker in the Pacific and a green 'Online' marker in Asia. Below the map is a 'Status' legend: Online and is running (green circle), Online but not running (yellow triangle), and Offline (red circle). A 'Refresh rate' dropdown is set to '30 sec'. Below the legend is a table with columns: All, Status, Linemaster serial number, Machine serial number, Updated date, Equipment type, Equipment Name, Job number, Job Id, and Group. The table contains 9 rows of data. At the bottom, there are controls for '9 of 9' items, 'per page' (set to 10), and 'Columns selector'.

All	Status	Linemaster serial number	Machine serial number	Updated date	Equipment type	Equipment Name	Job number	Job Id	Group	
<input type="checkbox"/>	Offline	J50001	M600009	25/01/2017 08:11:31	EquipmentType 5	Equipment 1 type EquipmentType 5	143	Job-3	TEST2	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<input type="checkbox"/>	Online	J50002	M600009	25/01/2017 08:11:31	EquipmentType 5	Equipment 3 type EquipmentType 5	64	Job-3	TEST2	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<input type="checkbox"/>	Online	J50003	M600009	25/01/2017 08:11:31	EquipmentType 5	Equipment 4 type EquipmentType 5	180	Job-3	TEST2	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<input type="checkbox"/>	Online	21 2541	129485	20/01/2017 12:54:49	TWO_COMPONENT	debug test			TEST2	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<input type="checkbox"/>	Offline	0		08/11/2016 11:53:36					TEST2	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<input type="checkbox"/>	Offline	72 4903		08/11/2016 11:53:36					TEST2	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<input type="checkbox"/>	Offline	72448		08/11/2016 11:53:36					TEST2	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<input type="checkbox"/>	Offline	12345		08/11/2016 11:53:36					TEST2	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<input type="checkbox"/>	Online but not running	10 3448		08/11/2016 11:53:36					TEST2	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

3.2. Linemaster Data and reports

To view a Linemaster you must click on the serial number of the Linemaster.

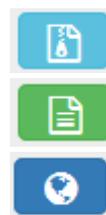
The screenshot shows a web interface for Linemaster status. At the top, there is a 'Status' section with three indicators: a green checkmark for 'Online and is running', a yellow triangle for 'Online but not running', and a red circle for 'Offline'. Below this is a 'Move Device' button. A table lists Linemaster data with columns: 'ALL', 'Status', 'Linemaster serial number', 'Machine serial number', and 'Updated date'. The first row shows a red circle status, the serial number '73-0002' (highlighted with an arrow), machine serial number '990001', and updated date '30/01/2017 07:01:53'. At the bottom left, it says '1 of 1'. At the bottom right, there are 'go to page' and 'Go' buttons.

Now you enter the Linemaster History. And you can make selections between all the reports from this Linemaster.

The screenshot shows the 'LineMasters History' page. It has filters for 'By Group' (Borum, TEST) and 'Serial Number' (73-0002). Below the filters, it shows 'Status: Offline', 'Linemaster Serial No.: 73-0002', and 'Machine Serial No.: 990001'. There is a search bar with fields for 'Equipment Name', 'Job Id', 'Start Date', and 'End Date'. A table lists history entries with columns: 'Equipment type', 'Equipment Name', 'Job number', 'Job Id', 'Job name', 'First log', and 'Last log'. The table contains 7 rows of data. At the bottom, there are '1 of 1', 'go to page', 'Go', and 'Number per page' (10) controls.

You have the following options for exporting a report:

- Export the log as a CSV file, click at
- Make a report in PDF format, click at:
- Generate a KML file, to open with Google Earth:





4. BM DIAGNOSTIC

4.1. Overview

BM Report can be found under the section Machines.



- To enter this portal you must click on 
- Now you will have an overview of the Machines in your BM Online.
- You can see a map with the Machines' locations.
- The Machines are arranged in a List, and you can arrange the list according to Status, Machine serial number, Linemaster serial number, Hour counter etc.

Machines

By Group:

By serial no.:

Map

Status

- Online and in running
- Online but not running
- Offline

Machine	Status	Machine serial number	Linemaster serial number	Registered date	Last Warning	Last Error	Time/Power Counter	Last Service Callback	Group
	●	44400000	450000	05/10/2018 01:47:00	10/10/2018 14:42:41 High Water Temp Warning	05/10/2018 14:42:41 High Water High Temp Switch Error	00	05/10/2018 14:42:41	Borum
	●	44400000	450000	05/10/2018 01:46:59	10/10/2018 14:42:41 Fan-over/High Warning	05/10/2018 14:42:41 O2Sensor Error	00	05/10/2018 14:42:41	Borum
	●	44400000	450000	05/10/2018 01:46:54	10/10/2018 14:42:41 High Water Temp Warning	05/10/2018 14:42:41 Voltage Error	00	05/10/2018 14:42:41	Borum
	●	71	71	05/10/2018 00:00:00	05/10/2018 00:00:00	05/10/2018 00:00:00	0	05/10/2018 00:00:00	Borum - New Devices
	●	71	71	05/10/2017 00:00:00	05/10/2017 00:00:00	05/10/2017 00:00:00	0	05/10/2017 00:00:00	Borum - New Devices
	●	71	71	05/10/2018 00:00:00	05/10/2018 00:00:00	05/10/2018 00:00:00	0	05/10/2018 00:00:00	Borum - New Devices
	●	171000	000000	20/10/2017 12:52:00	20/10/2017 12:52:00 Compressor Temp L Warning	20/10/2017 12:52:00 Fuelpump A Error	8700	05/10/2018 00:00:00	Borum - New Devices
	●	171000	000000	20/10/2017 12:52:00	20/10/2017 12:52:00 No Charging Warning	20/10/2017 12:52:00 Oil Pressure Error	700	05/10/2018 00:00:00	Borum - TEST

5 of 8

4.2. Machine diagnostic

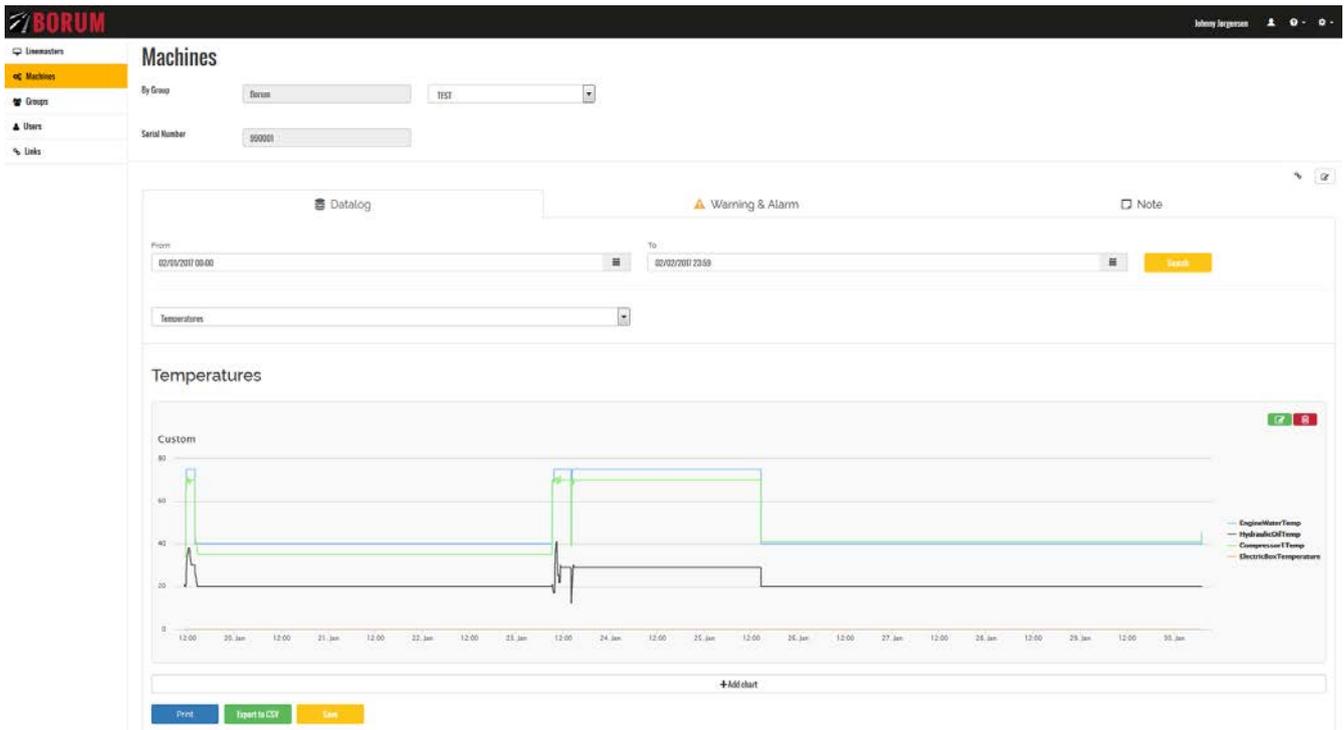
To enter a Machine diagnostic data you must click on the serial number of the Machine.

All	Status	Machine serial number	Linemaster serial number	Updated date	Last Warning	Last Alarm	Time/Hour Counter
<input type="checkbox"/>	⊖	MA000000	JE0000	07/11/2016 10:17:56	15/10/2016 14:42:41 High Water Temp Warning	16/10/2016 14:42:41 Water High Temp Switch Error	22
<input type="checkbox"/>	⊖	MA000001	JE0000	07/11/2016 10:14:09	14/10/2016 14:42:41 ServiceNotice Warning	16/10/2016 14:42:41 OilSensor Error	16
<input type="checkbox"/>	⊖	MA000011	JE0000	07/11/2016 10:15:04	13/10/2016 14:42:44 High Water Temp Warning	16/10/2016 14:42:44 Voltage Error	18
<input type="checkbox"/>	⊖	0	73-0018	07/11/2016 10:28:17	01/01/0001 00:00:00	01/01/0001 00:00:00	0
<input type="checkbox"/>	⊖	220192	73-0013	18/01/2017 18:52:39	01/01/0001 00:00:00	18/01/2017 18:52:39 Voltage Error	8



Now you enter this Machine and its datalog.
You can select the date/time from/to, of the data you what to view.

In the data log there there are 2 preset charts:
One concerning temperature and one concerning Warnings and alarms.



You can also make your own chart by clicking



Now you just need to pick the diagnostic data you want in your chart.

Please notice: The data you can select, depends on the configuration of your machine. Therefore, some options might not be available to select.

Edit Datalog Chart

-

Engine	Pneumatic/Hydraulic
<input type="checkbox"/> Engine RPM	<input type="checkbox"/> Air pressure
<input type="checkbox"/> Engine hours	<input type="checkbox"/> Compressor 1 oil temp.
<input type="checkbox"/> Engine water temp	<input type="checkbox"/> Compressor 2 oil temp.
<input type="checkbox"/> Ignition ON	<input type="checkbox"/> Compressor OFF (overtemp. error)
<input type="checkbox"/> Engine water temp. sensor error	<input type="checkbox"/> Low air pressure
<input type="checkbox"/> Low oil pressure	<input type="checkbox"/> Compressor 1 ON
<input type="checkbox"/> Engine high water temp. shutdown	<input type="checkbox"/> Fan comp.1/hydr. ON
<input type="checkbox"/> Engine oil pressure sensor error	<input type="checkbox"/> Compressor 2 ON
<input type="checkbox"/> Engine water temp. sensor error	<input type="checkbox"/> Fan comp.2 ON
<input type="checkbox"/> Engine water temp. switch error	<input type="checkbox"/> Low air pressure shutdown
<input type="checkbox"/> No charging	<input type="checkbox"/> Air release set
	<input type="checkbox"/> Hydraulic oil high temp. (warning)
Hydraulic	<input type="checkbox"/> Compressor high temp. shutdown
<input type="checkbox"/> Hydraulic oil temp.	<input type="checkbox"/> Compressors activated
	<input type="checkbox"/> Compressor 1 high temp (warning)
Material Tank	<input type="checkbox"/> Compressor 2 high temp (warning)
<input type="checkbox"/> Thermic oil tank temp.	<input type="checkbox"/> Compressor 1 oil temp. sensor error
<input type="checkbox"/> Material tank temp.	<input type="checkbox"/> Compressor 2 oil temp. sensor error
<input type="checkbox"/> Burner error	<input type="checkbox"/> Hydraulic temp. sensor error
<input type="checkbox"/> Material temp. low (warning)	
<input type="checkbox"/> Material temp. high (warning)	Other
<input type="checkbox"/> Thermic Oil tank temp. sensor error	<input type="checkbox"/> Fuel level
<input type="checkbox"/> Material tank temp. sensor error	<input type="checkbox"/> Equipment down (pneu.)
<input type="checkbox"/> Thermic oil temp. calls for heat	<input type="checkbox"/> Equipment down (hydr.)
<input type="checkbox"/> Material temp. calls for heat	<input type="checkbox"/> Service notice
<input type="checkbox"/> Burner activated	<input type="checkbox"/> Battery voltage
<input type="checkbox"/> Thermic oil tank temp. setpoint	<input type="checkbox"/> CAN communication error
<input type="checkbox"/> Material tank temp. setpoint	<input type="checkbox"/> Battery voltage error
<input type="checkbox"/> Material temp. difference warning setpoint	<input type="checkbox"/> Deactivate pause for application

Close

OK

Press OK to save.

For each chart you have the following options:

- Print it
- Export the data to a CSV file
- Save it, so you easy can access this chart again





5. Groups

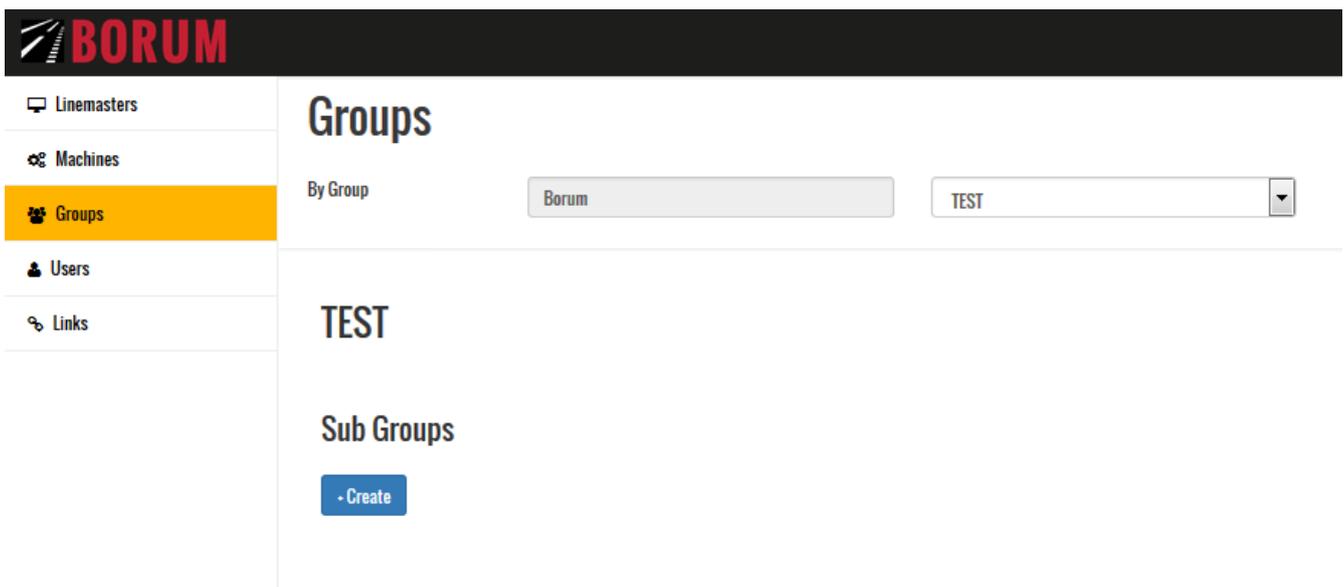
If you have more than one machine, you have the option to create more groups. Each group can contain one or more Linemasters and Machines, depending on your needs. This way you can assign different users to access specific groups.

Example:

- If you have more machines, you create a group for each Machine. It could be TEAM 1, TEAM 2 and etc.
- Then you put each Machine and its Linemaster into the correct group (TEAM)
- Now when you create a user on TEAM 1.
- You only give this user permission to access the data in group TEAM 1. Then this user only has access to the data of the Linemaster and machine in group TEAM 1.

To create/arrange Groups click on 

Now you can create a new group by clicking at 



You will also be able to create sub-groups.

If you have 2 departments (e.g. EAST and WEST), you create EAST and WEST as groups. Next you can create sub-groups for each main group e.g. TEAM 1 consisting of Machine 1 + LineMaster 1).

Now you create a user and decide if this user should have access to group EAST, or only group EAST/TEAM 1. If a user have access to EAST, he will have access to all the sub-groups in-EAST. (EAST/TEAM 1, EAST/TEAM 2 etc.)

It is also possible to set different Permissions in each group.



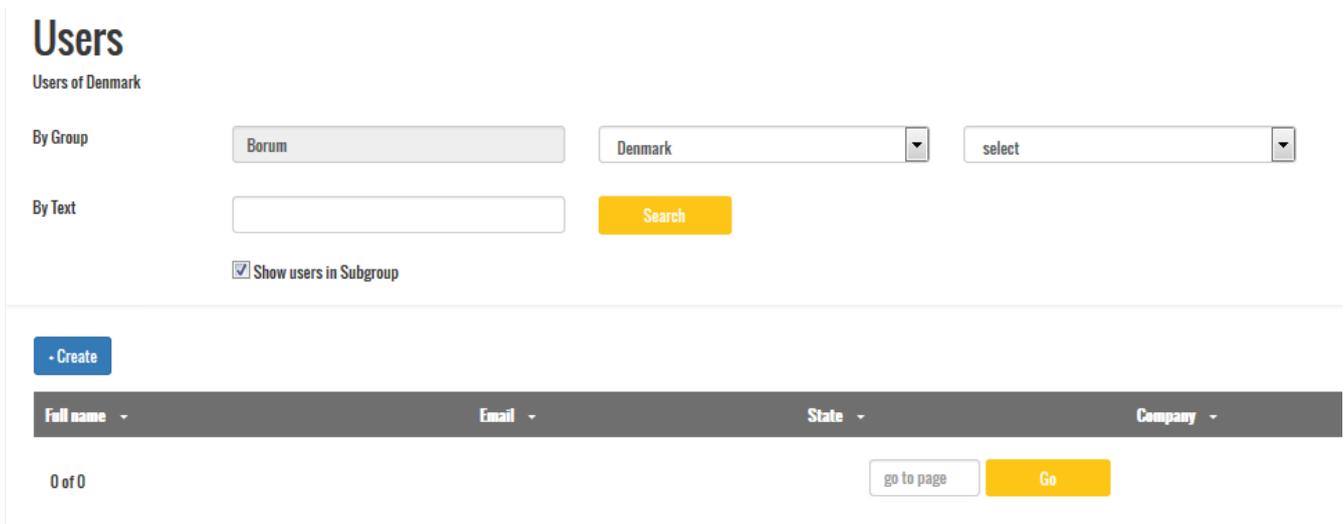
6. Users

If you want someone other than yourself to have access to your Borum Online profile, you will need to create a new user.

To create a new user, you must click on 

Now you can create a new user by clicking on 

Before you "Create", make sure you have chosen the correct Group/Sub group.



The screenshot shows the 'Users' management page for 'Users of Denmark'. It includes search filters for 'By Group' (Borum), 'By Text' (empty), and a 'Search' button. There are also dropdown menus for 'Denmark' and 'select'. A checkbox for 'Show users in Subgroup' is checked. Below the filters is a '- Create' button and a table header with columns: 'Full name', 'Email', 'State', and 'Company'. At the bottom, it shows '0 of 0' users and 'go to page' and 'Go' buttons.

When you create a new user, you just need to fill in the E-mail address of the user, the Expiry Date and the Universal roles.

As Universal roles you can choose between.

- | | |
|--------------------------------|---|
| Administrator | Have same permission as you. |
| Roadmarker / Technician | Can see data from the Linemaster report and diagnostic data from the machine. |
| Roadmarker | Can only see data from the Linemaster report. |
| Technician | Can only see the diagnostic data from the machine. |
| Customer | Can only see data from the Linemaster report. |

When you are done, remember to click on 

User Entry

By Group

Borum

Denmark

Email *

Expire Date

Application Administrator

Universal Roles

- Borum
- Borum Technician
- Dealer Main
- Dealer Admin
- Dealer Technician
- Customer Main
- Administrator
- Roadmarker / Technician
- Roadmarker
- Technician
- Customer

Save

Cancel



7. Links

You can create your own links (e.g. company website) and add them to different groups.

Example:

- Create a link in the main Group that have been made from Borum. This could be you company website for example.
- Or you could create a link in you group "EAST". All users with access to group EAST will have access to this link.
- You could also make a link for a sub-group EAST/TEAM 1, then users that have access to EAST or EAST/TEAM 1 have access to this link.
- This link can contain any type of files, website, etc. (E.g. a sheet where users must fill in information, a page with information concerning EAST/TEAM 1).

To create a new link, you must click on 

Now you can create a new link by clicking on 

Before you "Create", make sure you have chosen the correct Group/Sub group.

Links

Links of Denmark

By Group

[+ Create](#)

Sort Order	Name	Active	Publish	Group	Comment	URL
1	Borum A/S	<input checked="" type="checkbox"/>	Public	Borum	Professional road marking equipment	http://www.borum.as

1 of 1

go to page

Number per page

Now you must fill in:

- Sort Order  The sort order of the different links, when you go into
- Name  The name that will be displayed in
- Comment A short description
- URL The address of the link

Create Link

By Group

Sort Order * <input type="text" value="0"/>	Name * <input type="text"/>
Publish <input type="text" value="Private"/>	Comment * <input type="text"/>
<input checked="" type="checkbox"/> Active	URL * <input type="text"/>
Group Denmark	
<input type="button" value="Save"/> <input type="button" value="Cancel"/>	

When you are done, remember to click on 

WE HOPE YOU ENJOY THE BM ONLINE!

For any questions, contact us at info@borum.as and call us at +45 87 613 213.

