

SCHAEFFLER



How to deploy Schaeffler OPTIME-C1

10 Steps to Success! V2.0

We pioneer motion

Agenda

- 1** Preparation
- 2** Let's get started
- 3** Check after installation

Agenda

1 Preparation

1.1 STEP 1: Applications and Factory Layout

1.2 STEP 2: Asset Structure

1.3 STEP 3: User Definition

2 Let's get started

3 Check after installation

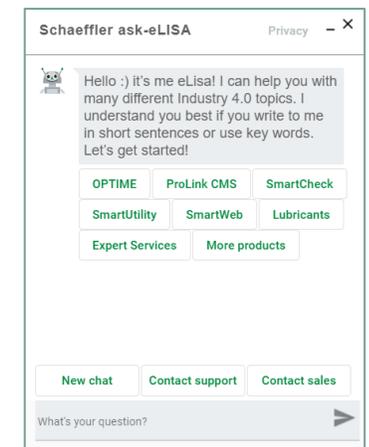
Where to find support?

Technical support

If you have any questions about Schaeffler Industry 4.0 Service Solutions, our **Technical Support** is your central point of contact.

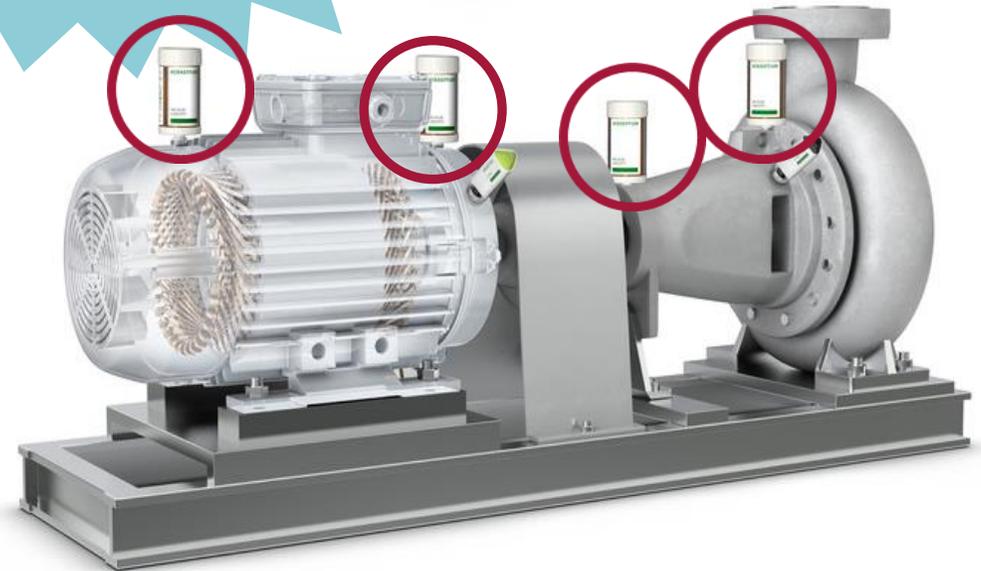
Approach the Technical Support Team via our Support Webpage ([here](#)) or use immediately or Contact Form ([here](#)).

Try out also our Chat-Bot eLISA.

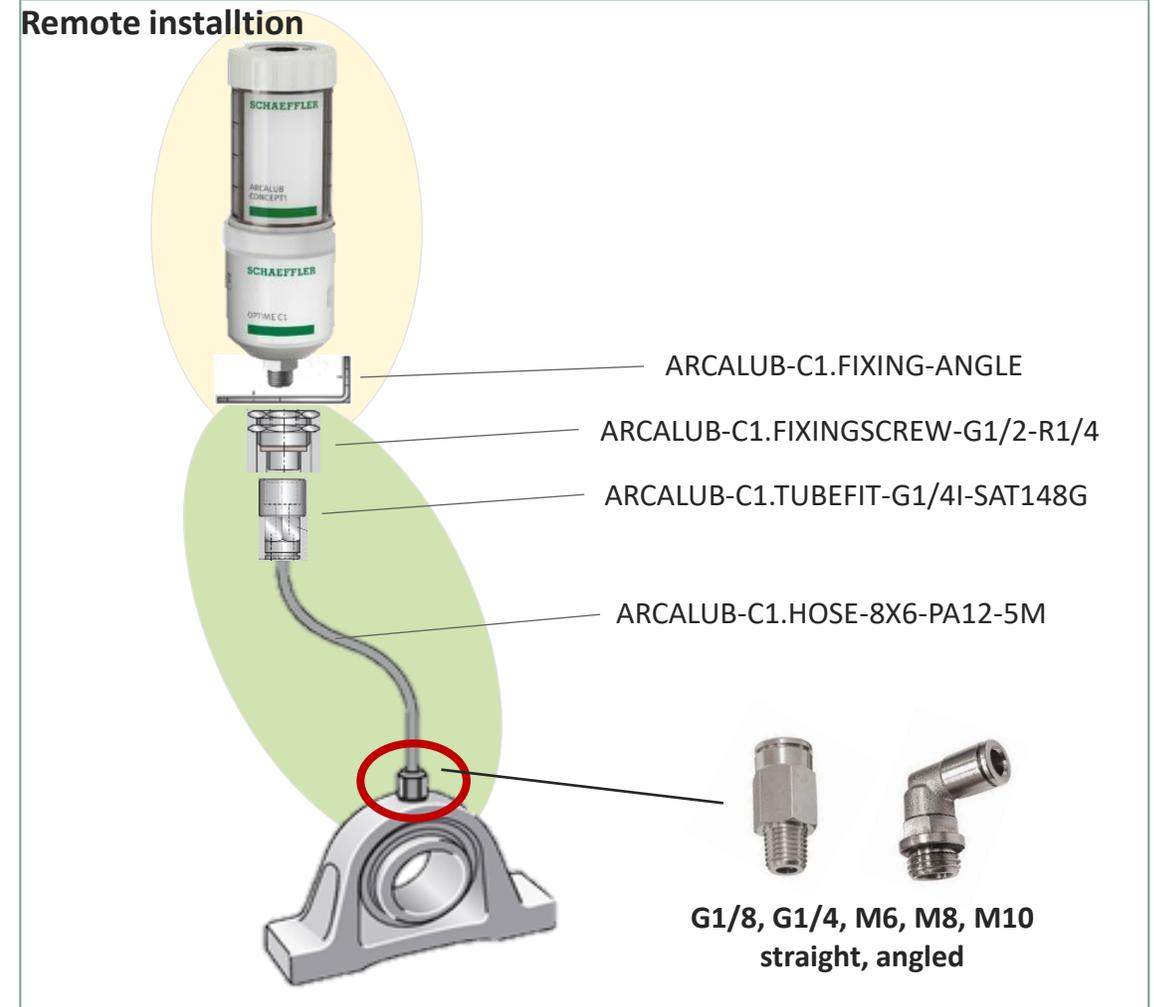


STEP 1: Define applications and lubrication positions (Some Examples)

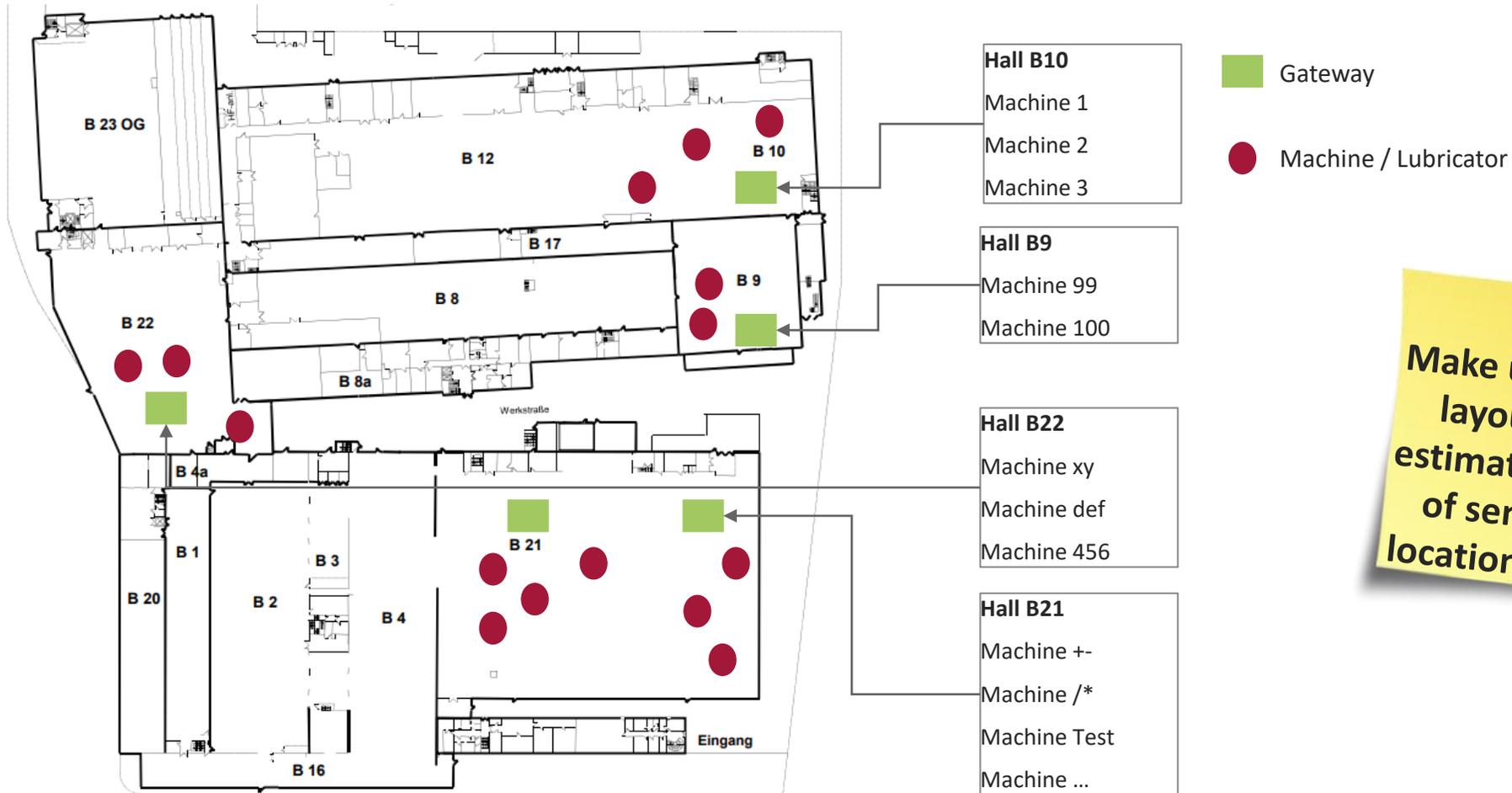
The Schaeffler experts are happy to support to define suitable applications and check environmental conditions. (Check feasibility)
However, lub-points are well defined & easy to recognize in the machines.



STEP 1: Installation modes:



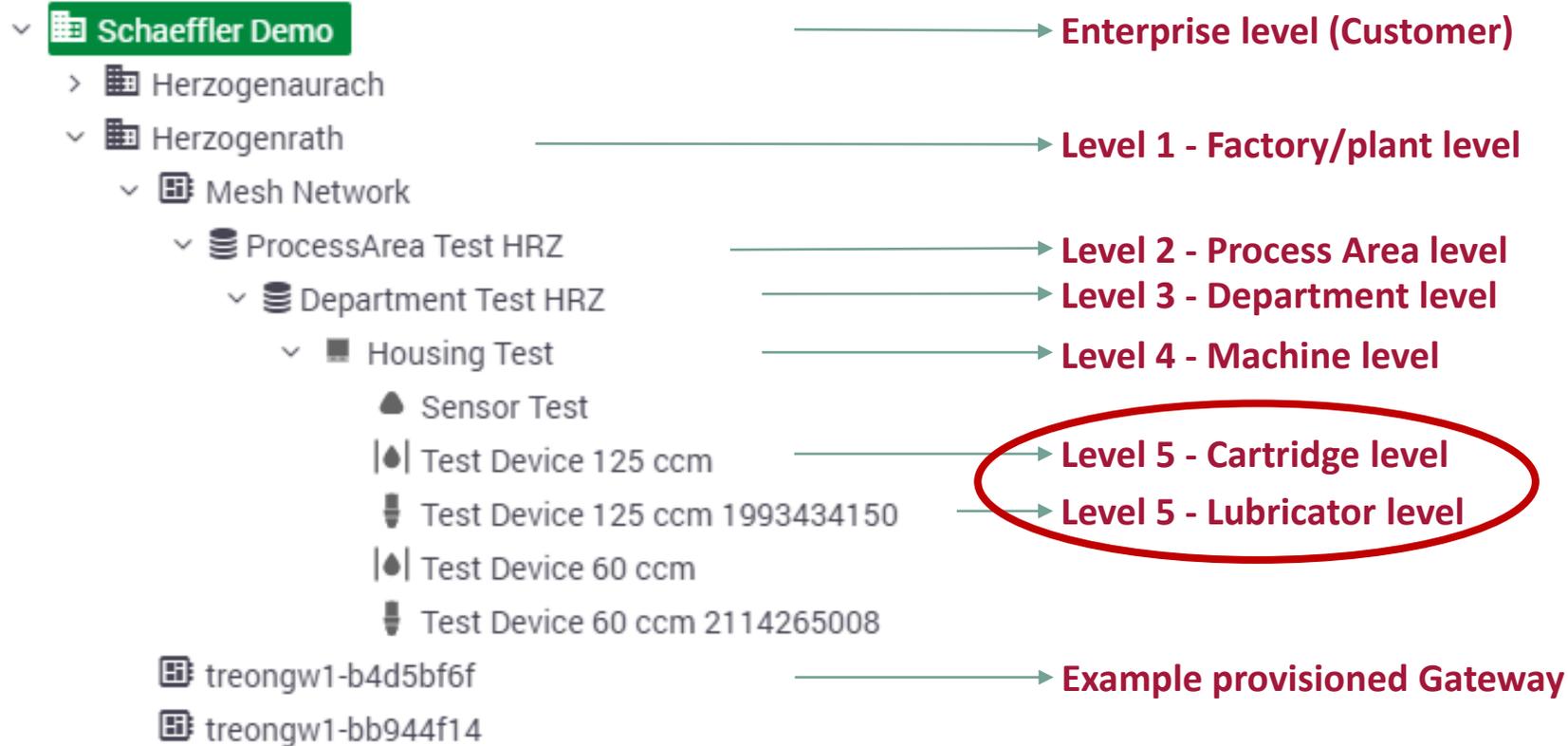
STEP 1: Make use of a factory layout (Example)



HINT:
Make use of e.g. factory layout for an easier estimation and planning of sensor & gateway locations and quantities

STEP 2: Prepare the Asset structure

The OPTIME system needs a clearly defined structure to work properly. This needs input from the administrator of the OPTIME system



Customers can manage different plants within a single enterprise

STEP 2: List of assets, asset structure and metadata

Amount of levels is fixed

Please keep layout and format

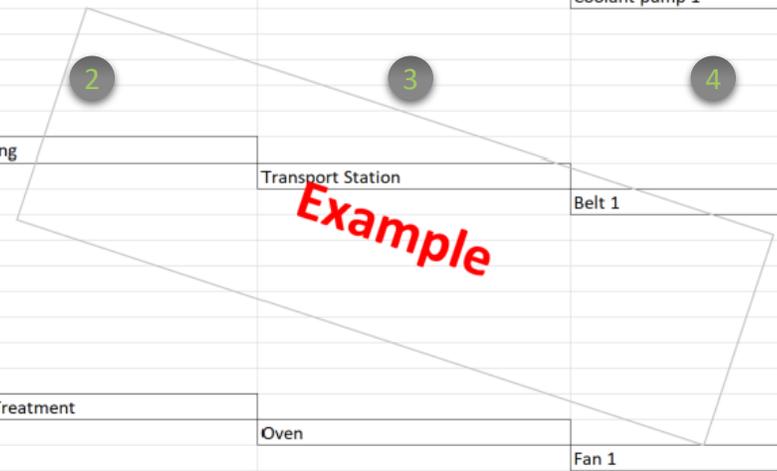
NECESSARY INFORMATION BEFORE INSTALLATION
 *Customer has to define content for these 4 levels
 *Hierarchy will be setup via import by Schaeffler employees (Recommended).
 *Asset structure can also be created via Asset Creation Wizard by Admin user
 *Level 4 (Asset) can also added via the app during installation

Customer	1. Level (Plant)	2. Level (Process Area)	3. Level (Department)	4. Level (Machine)	5. Level (Lubricator)
Customer name	Plant 1				
		Honing			
			Pump Station		
				Coolant pump 1	
					Pump DE
					Pump NDE
					Motor DE
					Motor NDE
		Grinding			
			Transport Station		
				Belt 1	
					Roller 1 Left
					Roller 1 Right
					Roller 2 Left
					Roller 2 Right
					Chain Left
					Chain Right
		Heat Treatment			
			Oven		
				Fan 1	
					Fan DE
					Fan NDE
					Motor DE
					Motor NDE

To ease and speed up the asset hierarchy creation, the IoT Project Delivery Team in Herzogenrath can import the filled-out template!

Admins can also use the „Asset Creation Wizard“: (More info in the „OPTIME in operation“)

- 1 **Level 1**
Factory/Plant location level
- 2 **Level 2**
Process Area level
- 3 **Level 3**
Department level
- 4 **Level 4**
Machine level
- 5 **Level**
Lubricator level
(added later by using App)



Example

Fill in reasonable naming (max. 64 characters per level) into provided Template file (Template file may look different)

STEP 2: List of lubrication points, lubricants, relubrication requirements, mechanical installation and metadata

Asset information		Lubricator information		Relubrication information				Mounting information		
Asset	Asset type	Lubricator:	Machine Type:	Lubricant type:	Re-lubrication Int.:	Re-lubrication qty.:	Cartridge Size:	Connection thread:	Mounting:	Hose lenght:
Coolant Pump 1	Pump unit	Pump DE	Pump	ARCANOL Multitop	60 g	4 months	60 ccm	M8	Direct	
		Pump NDE	Pump	ARCANOL Multitop	60 g	4 months	60 ccm	M8	Direct	
		Motor DE	Electric motor	ARCANOL Multi2	40 g	3 months	125 ccm	M6	With 35 mm Extension	
		Motor NDE	Electric motor	ARCANOL Multi2	40 g	3 months	125 ccm	M6	With 35 mm Extension	
Fan 1	Fan unit	Fan DE	Fan	Shell Gadus S5 V220 2	250 g	1 Year	125 ccm	M8	With 50 mm Extension	
		Fan NDE	Fan	Shell Gadus S5 V220 2	250 g	1 Year	125 ccm	M8	With 50 mm Extension	
		Motor DE	Electric motor	ARCANOL Temp110	60 g	6 months	60 ccm	G1/4	With 45° Angle	
		Motor NDE	Electric motor	ARCANOL Temp110	60 g	6 months	60 ccm	G1/4	With 45° Angle	
Belt 1	Belt conveyor	Roller 1 Left	Shaft assembly	Castrol Molub-Alloy 777 2NG	125 g	3 months	125 ccm	M10	Direct	
		Roller 1 Right	Shaft assembly	Castrol Molub-Alloy 777 2NG	125 g	3 months	125 ccm	M10	Direct	
		Roller 2 Left	Shaft assembly	Castrol Molub-Alloy 777 2NG	125 g	3 months	125 ccm	M10	Direct	
		Roller 2 Right	Shaft assembly	Castrol Molub-Alloy 777 2NG	125 g	3 months	125 ccm	M10	Direct	
		Chain Left	Other/Unknow	ARCANOL Chain Oil	120 ccm	1 Year	125 ccm	G1/4	Remote	2 m
		Chain Right	Other/Unknow	ARCANOL Chain Oil	120 ccm	1 Year	125 ccm	G1/4	Remote	2 m

Relubrication interval and quantity will be needed for provisioning of lubricators.

In case of using NON Schaeffler Greases, a list of the customer greases will be needed by creation of Tenant.

IMPORTANT: For the time being, only IoT Delivery Managers are able to create lists of greases.

Example

Fill in reasonable naming (max. 64 characters per level) into provided Template file (Template file may look different)

STEP 3: Who is going to use OPTIME?

Schaeffler IoT Project Delivery Team supports you with setting up the user credentials for the IOT dashboard and the OPTIME App!

OPTIME Initial Installation Assessment Template		
Company Name:	1	
Company Address:		
Planned Installation date:		
Notes:		
Username (please ask customer to provide list in e-mail)	E-Mail	Role (viewer / operator / admin)
2	3	4

- 1 **Fill in Company details**
- 2 **Provide names of users for dashboard and app**
- 3 **Provide E-Mail address:**
Login name will be E-Mail address!
- 4 **Role:**
 - Admin:**
 - Managing asset structure
 - Creating deleting and editing assets
 - Creating, deleting and editing users
 - Provisioning of sensors and gateways
 - Access to Dashboard
 - Acknowledge alarms
 - Operator:**
 - Provisioning of sensors and gateways
 - Access to Dashboard
 - Acknowledge alarms
 - Viewer:**
 - Access to Dashboard

Agenda

1 Preparation

2 Let's get started

2.1 STEP 4: User Account Activation

2.2 STEP 5: Logging in and using the Dashboard

2.3 STEP 6: Downloading the App

2.4 STEP 7: Provision of Gateways

2.5 STEP 8: Provision of Lubricators

2.6 STEP 9: Mechanical Mounting of Lubricators

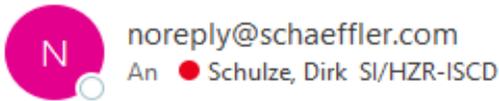
3 Check after installation

STEP 4: User account activation

Hint!

Set your first password on a PC instead of using your mobile phone

User account activation



**** CAUTION - email originated from outside the Schaeffler organization**

Hi Dirk,

A user account has been created for you.

Your user name is???

← Username (will be E-mail address)!

Please, set your password and activate you account by clicking [here](#).

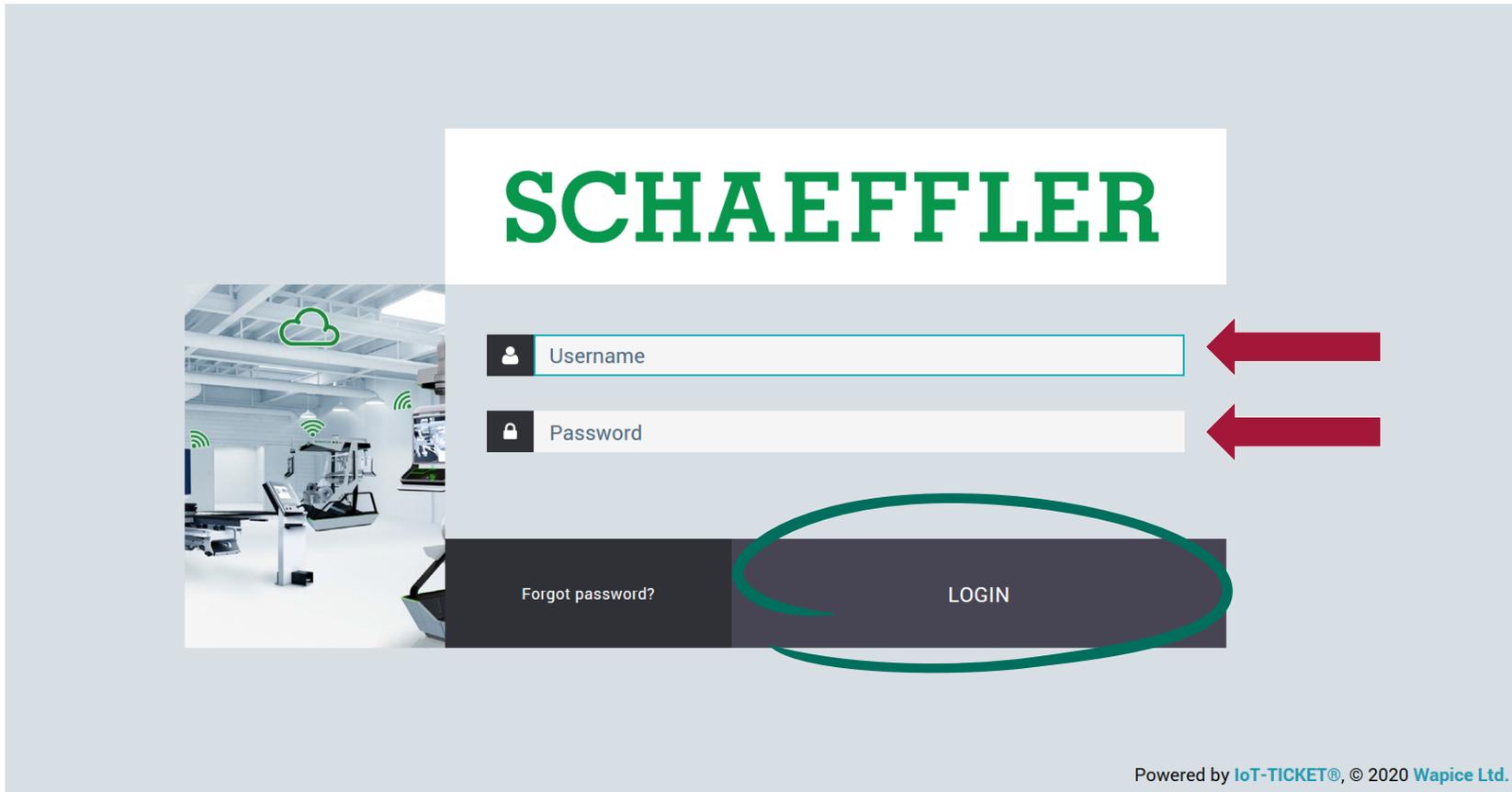
← Password needs min. 7 characters!

- The appointed OPTIME user will receive similar E-Mail **after** User Accounts have been setup in the system!
- To provision hardware, User Accounts **MUST** be created **AND** Asset Structure **MUST** be prepared **FIRST**

Check your SPAM folder as well or contact your IT department to verify if e-mails are filtered in case you don't receive any mail.

STEP 5: Logging in und using Dashboard

After setting the initial password, open Web Brower and open: <https://schaeffler-optime.com/>



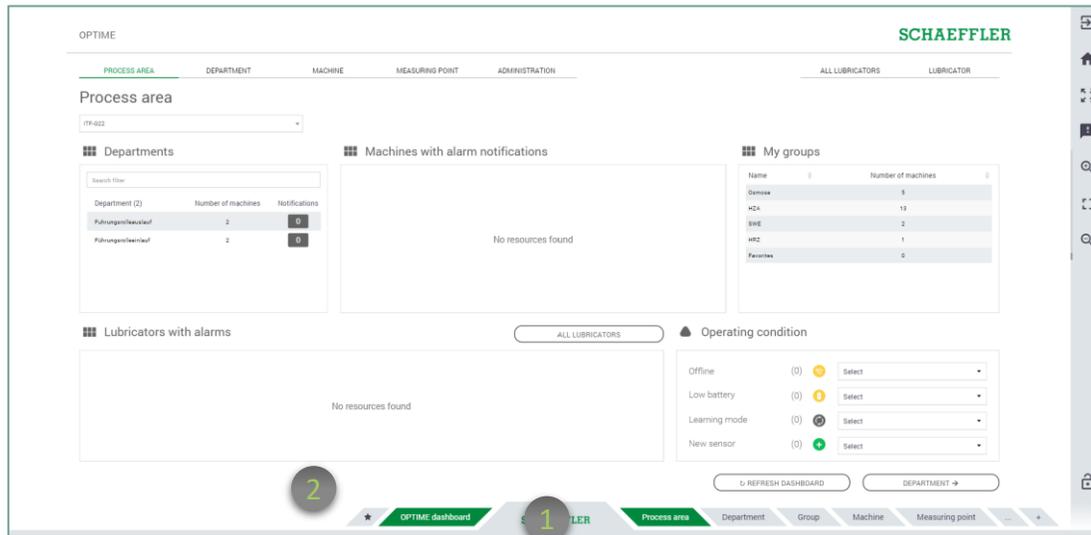
Hint:

In case password lost or login is impossible, get back to login page and click: “Forgot password?” and request new E-Mail to set you password again!

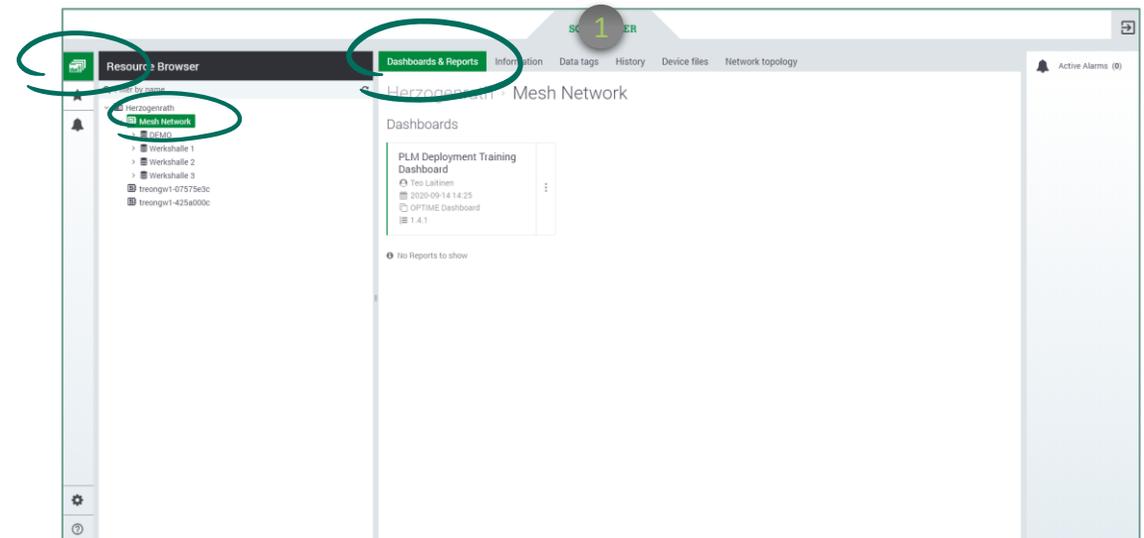
Check your SPAM folder as well or contact your IT department to verify if e-mails are filtered in case you don't receive any mail.

STEP 5: Change between different Dashboard view and tree structure

Dashboard



Tree structure



1 Change between Dashboard and Tree structure:

Click Schaeffler logo

2 Dashboard Favourite:

Click to choose and to open desired dashboard

Data and trends only viewable in Dashboard view → Dashboard should be used as Standard View
Tree structure is only used for administration purposes and trouble shooting.

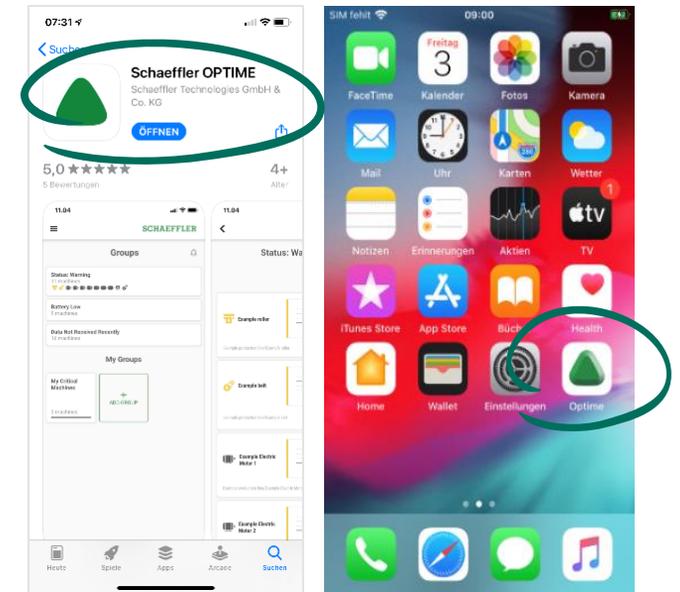
STEP 6: Download the OPTIME APP and login, too.



- The Mobile App is used to provision sensors, lubricators and gateways
- The App notifies about machine status change and it is giving a comprehensive overview of machine condition, trends and data
- OPTIME mobile first approach is unique and strongly separates us from key competitors!



Search for **Schaeffler OPTIME!**
Use the same user credentials like for the dashboard



STEP 7: Also check out the documentation before starting to provision any hardware

OPTIME

SCHAEFFLER

BA 68

www.schaeffler.de/std/1F40

AC 85 V – 264 V, 47 Hz – 440 Hz

www.schaeffler.de/std/1F41

Hiermit erklärt Schaeffler Technologies AG & Co. KG, dass die Funkanlagen Gateway OPTIME und Sensor OPTIME der Richtlinie 2014/53/EU entsprechen. Der vollständige Text der EU-Konformitätserklärung ist unter der folgenden Internetadresse verfügbar: www.schaeffler.de/std/1F40

Schaeffler Monitoring Services GmbH
Kaisersstraße 100
52134 Herzogenrath · Germany
www.schaeffler.com

OPTIME C1

SCHAEFFLER

BA 70-2

www.schaeffler.de/std/1F48

www.schaeffler.de/std/1F41

www.schaeffler.de/std/1F4C

max. 2 bar

5-10 Nm

1. www.schaeffler.de/std/1F41

2. www.schaeffler.de/std/1F41

3. www.schaeffler.de/std/1F41

4. www.schaeffler.de/std/1F41

5. www.schaeffler.de/std/1F41

6. www.schaeffler.de/std/1F41

7. www.schaeffler.de/std/1F41

8. www.schaeffler.de/std/1F41

9. www.schaeffler.de/std/1F41

Hiermit erklärt Schaeffler Technologies AG & Co. KG, dass die Funkanlage OPTIME C1 der Richtlinie 2014/53/EU entsprechen. Der vollständige Text der EU-Konformitätserklärung ist unter der folgenden Internetadresse verfügbar: www.schaeffler.de/std/1F48

Schaeffler Technologies AG & Co. KG
Georg-Schäfer-Str. 30
97421 Schweinfurt
www.schaeffler.com

BA 68-2 / 09m-0M / 7020063 / Printed in Germany by Hoffmann

BA 70-1 / 01 / 0m-0M / 2021-12

- **Download Full Manual in German language here:**
- **Download Full Manual in English language here:**

It must also be checked that the appropriate tools for mechanical assembly are present.

STEP 7: How to provision a Gateway - QR Codes

OPTIME

SCHAEFFLER

BA 68 ~~QR CODE~~
www.schaeffler.de/std/1f40

www.schaeffler.de/std/1f41

1. www.schaeffler.de/std/1f41

2.

3.

4.

5.

6.

Hiermit erklärt Schaeffler Technologies AG & Co. KG, dass die Funkanlagen Gateway OPTIME und Sensor OPTIME der Richtlinie 2014/53/EU entsprechen. Der vollständige Text der EU-Konformitätserklärung ist unter der folgenden Internetadresse verfügbar: www.schaeffler.de/std/1f40

Hereby, Schaeffler Technologies AG & Co. KG declares that the radio equipment Gateway OPTIME and Sensor OPTIME are in compliance with Directive 2014/53/EU. The full text of the EU declaration of conformity is available at the following internet address: www.schaeffler.de/std/1f40

Schaeffler Monitoring Services GmbH
Kaiserstraße 100
52134 Herzogenrath - Germany
www.schaeffler.com

CE ~~QR CODE~~

BA 68-2 / 0m-0M / 202006-1 / Printed in Germany by hochmann



DON'T SCAN THESE QR CODES IN THE MANUAL!!!

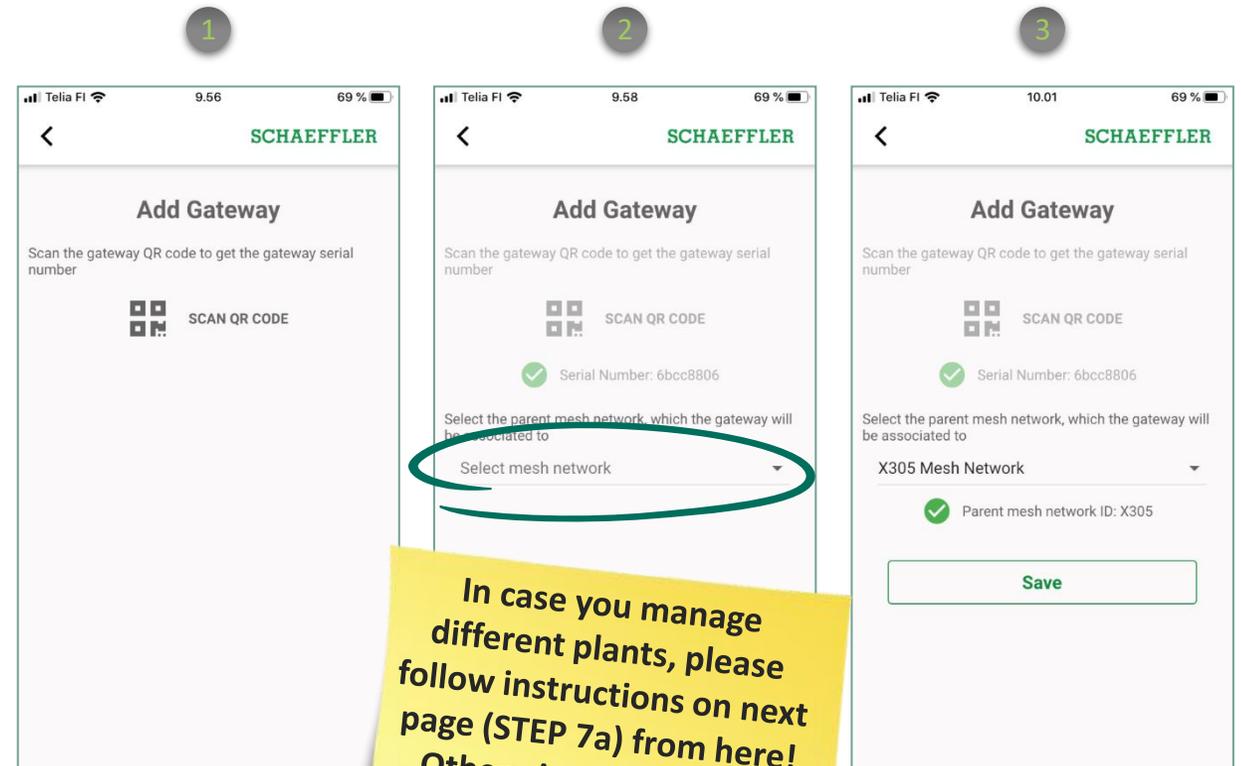
**BUT SCAN THESE!
EITHER SCAN THE QR CODE ON THE ENCLOSURE OR ON
THE GATEWAY PACKAGING!! ONLY 1x SCAN/GATEWAY**

STEP 7: Provision of Gateway

Installation steps

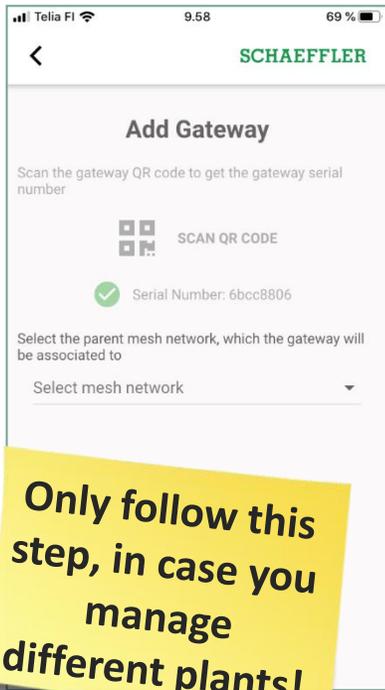
Attention: Power up the gateway BEFORE provisioning

- Power up the Gateway
 - Check that LED in Gateway turns to green after 1-5min after GW has been powered up. This means that Gateway has established connection to Internet (not to OPTIME Server).
- Activate the Gateway with OPTIME app like described
- Install Gateway at desired installation point
- If connection successful mount the GW with 4 screws
 - **If no green light appears, try different place with better cell phone coverage or call IOT Delivery Team for Support**

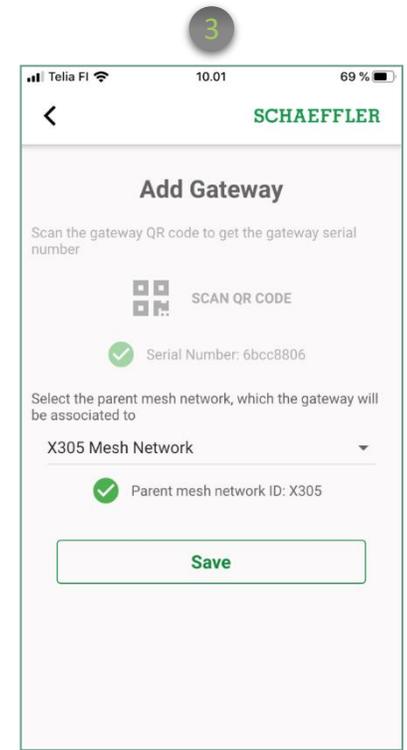
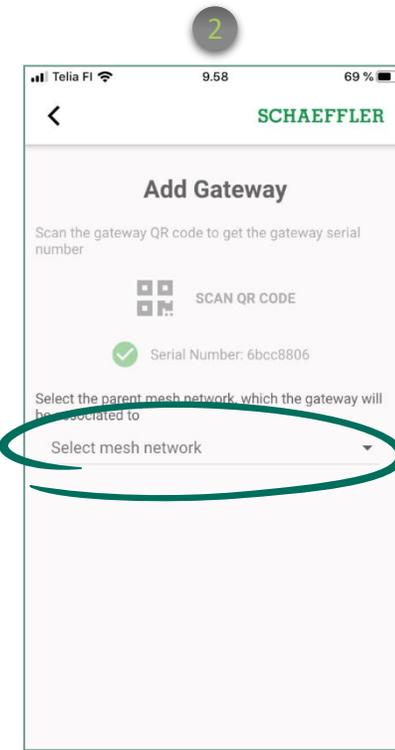
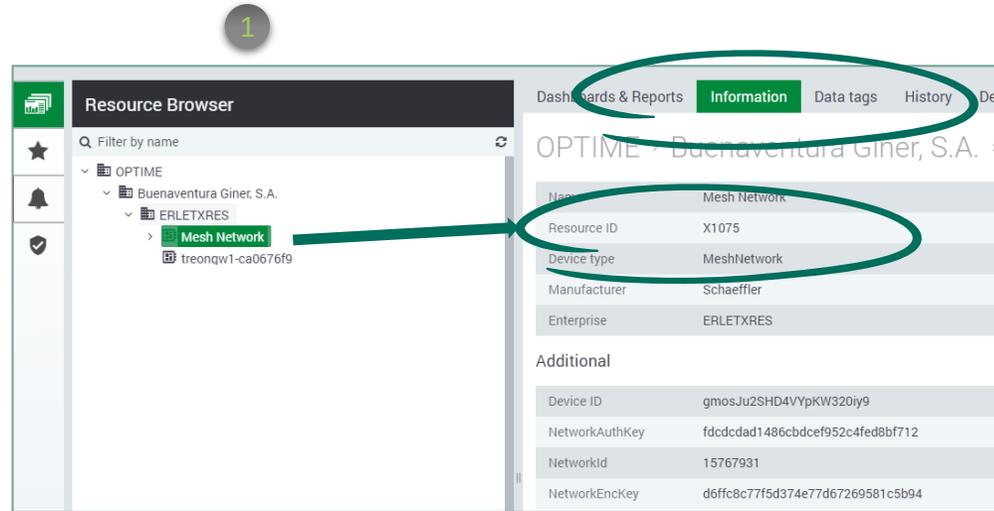


In case you manage different plants, please follow instructions on next page (STEP 7a) from here! Otherwise choose pre-selected mesh network!

STEP 7a: Provision of Gateway



Only follow this step, in case you manage different plants!



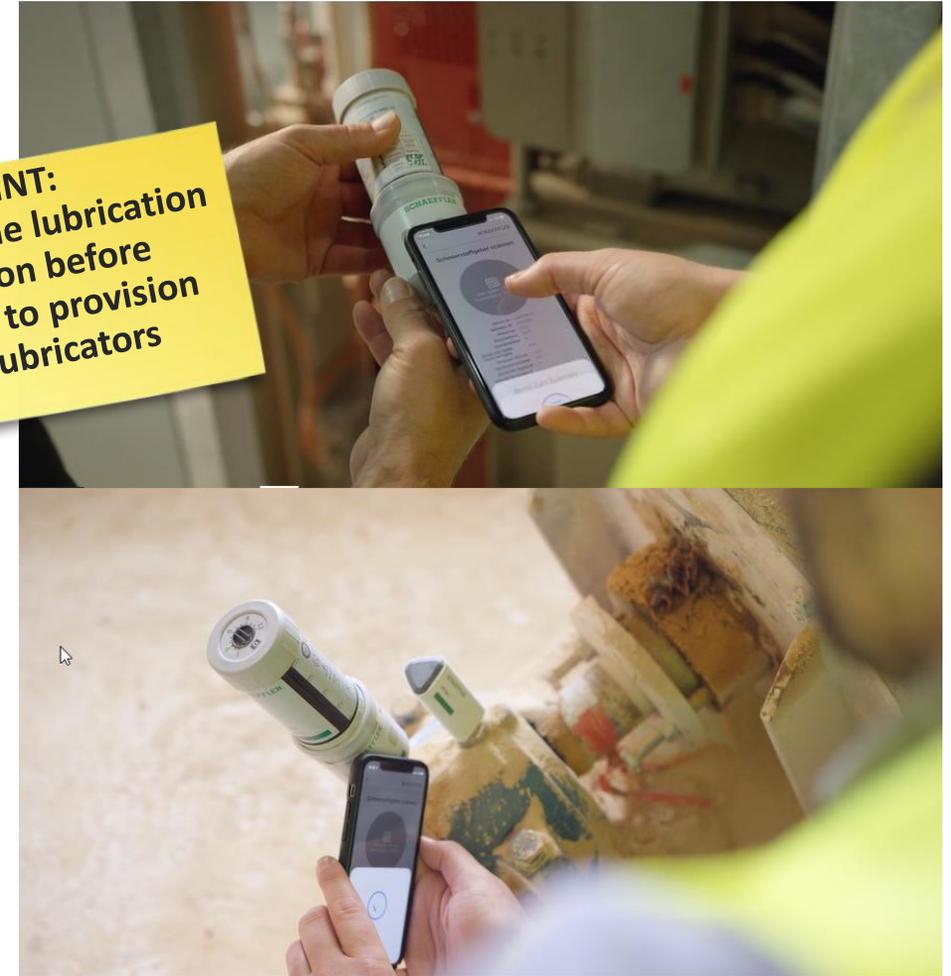
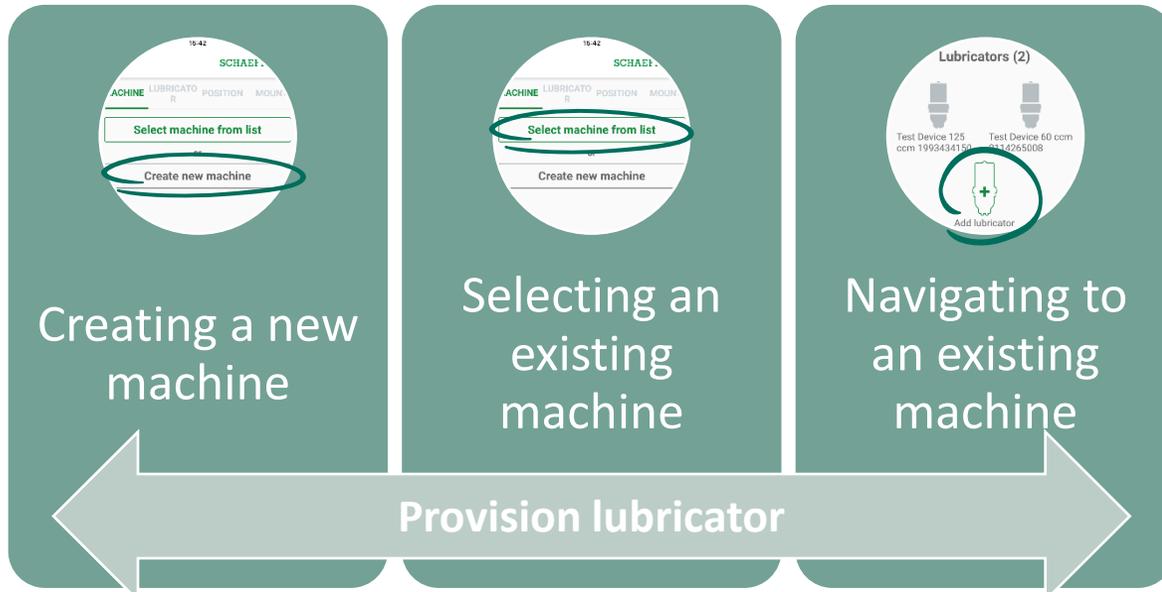
- 1 Open tree structure**
Navigate to:
Dashboard Browser → Relevant Plant → Mesh network → Information → Resource ID
- 2 Select Mesh network**
Navigate in Drop down menu to Mesh Network
- 3 Finish**
Finalize with SAVE

STEP 8: Provision of lubricators

Installation steps

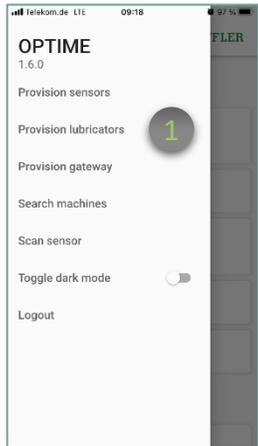
- Prepare the lubrication point with the suitable adapter (OPTIME-C1 have G1/4 thread)
- Perform the activation of the lubricator using OPTIME app until “Mount the lubricator”
– **Click SAVE!**
- Mount the lubricator to the mounting location
- Finalize activation of the lubricator using OPTIME app
- Activate the gas cell with the same set up of the lubricator (from 1 to 12 months)

HINT:
Prepare the lubrication position before starting to provision the lubricators

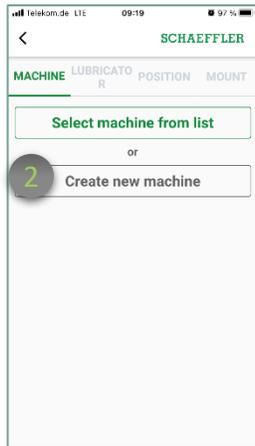


STEP 8: Provision of lubricators – Different ways lead to a good result

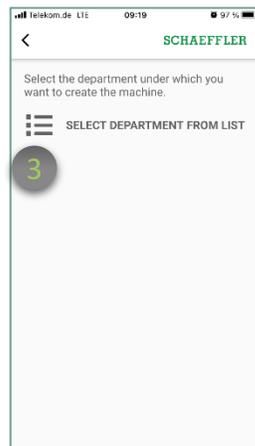
OPTION A - Provision a lubricator by creating a new machine



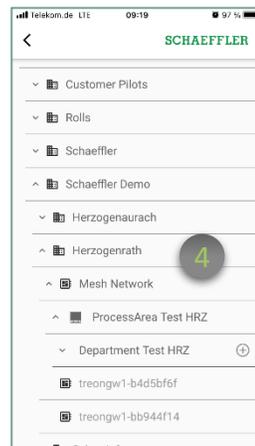
1
Click
"Provision
Lubricators"



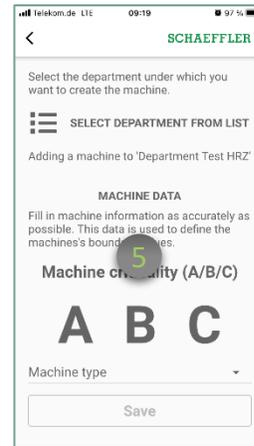
2
Click
"Create new
machine"



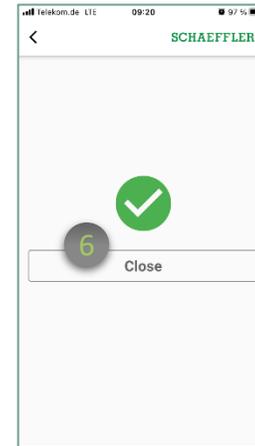
3
Select
department
machine to be
added



4
Navigate to
department and
click "+"



5
Define Name
Criticality,
Machine type
and mandatory
Meta Data



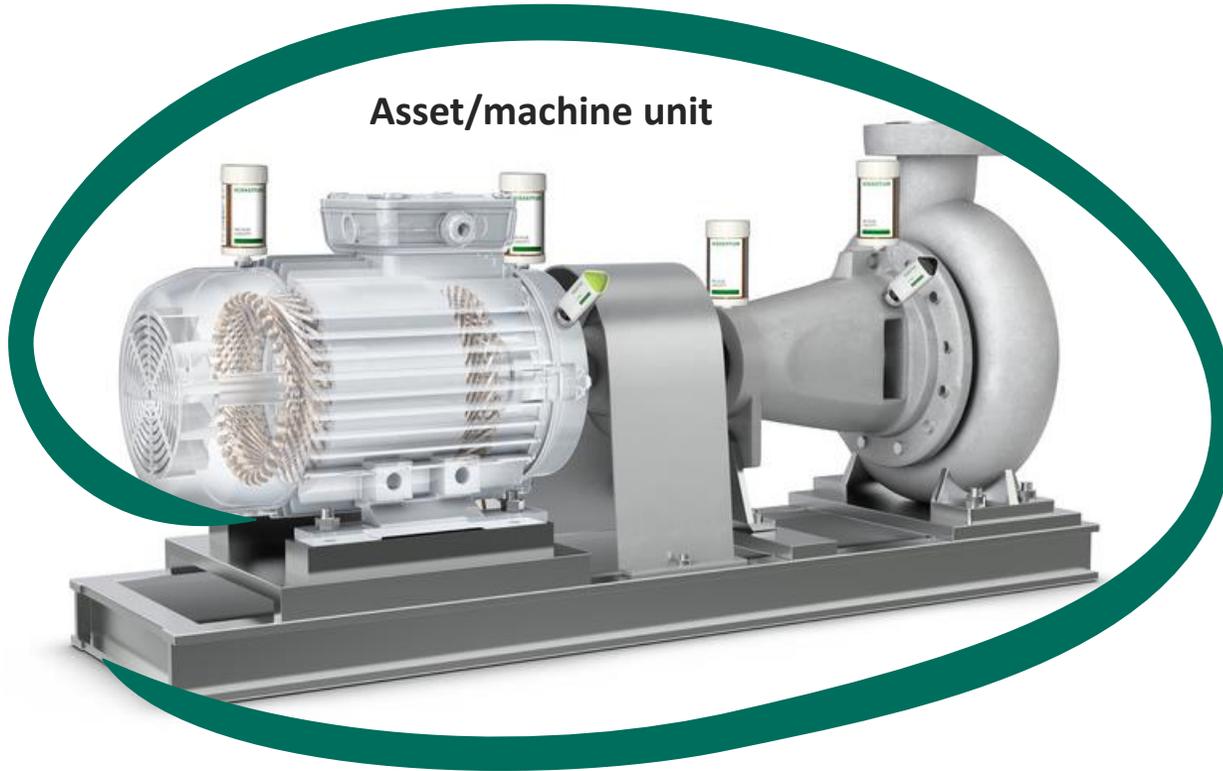
6
Click Close



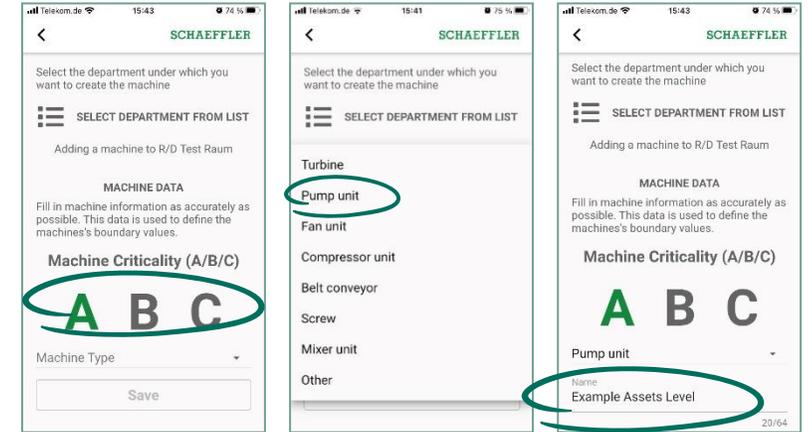
7
Click "Continue"
to provision
lubricator
**(Go to slide
provision
Lubricators)**

STEP 8: Provision of lubricators

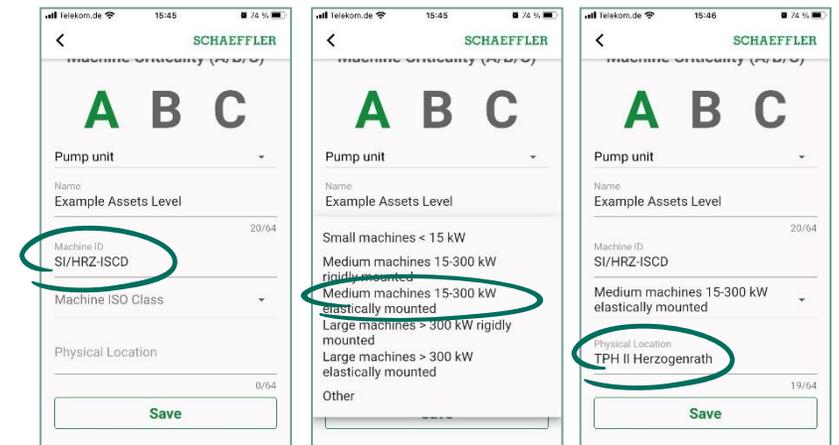
Which Information do I need to fill on "Machine level"?



Mandatory information

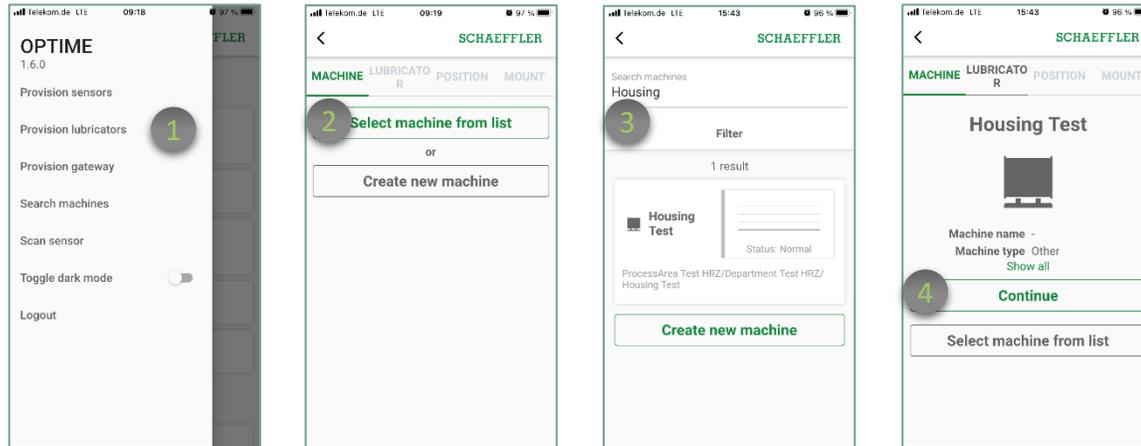


Complementary information



STEP 8: Provision of lubricators – Different ways lead to a good result

OPTION B - Provision a lubricator by selecting an available machine from list



1
Click
“Provision
lubricators”

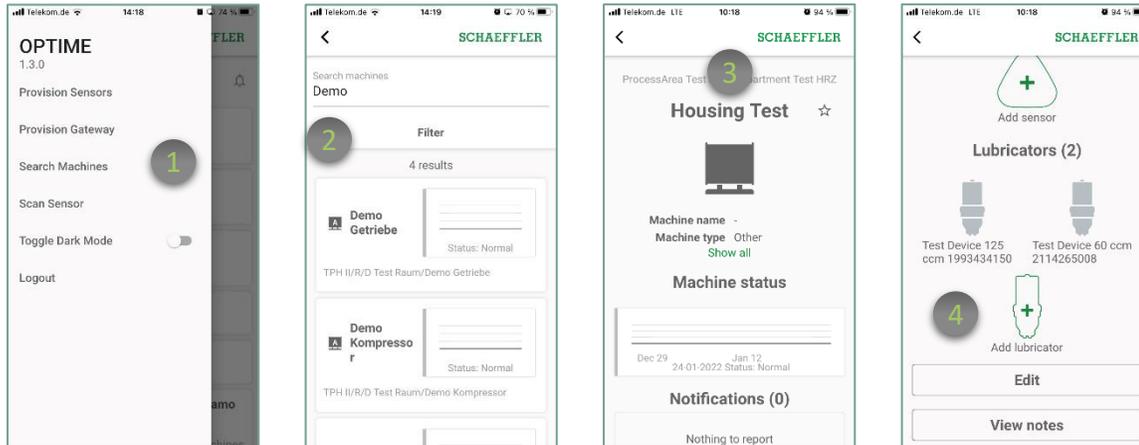
2
Click
“Select Machine
from list”

3
Type in name of
machine and
choose machine

4
Click “Continue”
to provision
lubricator
**(Go to slide
provision
Lubricators)**

STEP 8: Provision of lubricators – Different ways lead to a good result

OPTION C – Navigate to existing machine and add a lubricator from there



1
Click
“Search
machines”

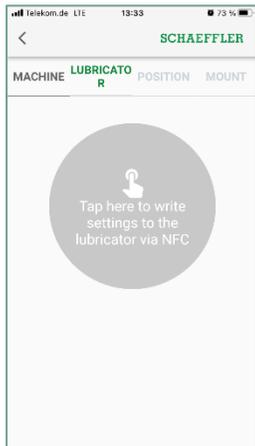
2
Type in name of
machine and
choose machine

3
Scroll to the
bottom of the
screen

4
Click “Add
Lubricator”
**(Go to slide
provision
Lubricators)**

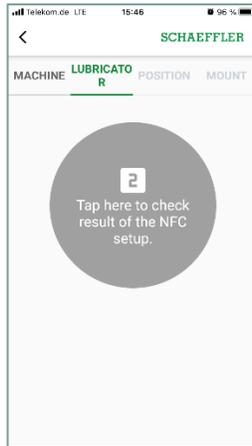
STEP 8: Provision of lubricators

Provision lubricator



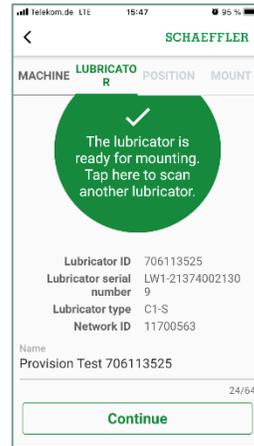
1

Scan Lubricator via NFC function for a first time



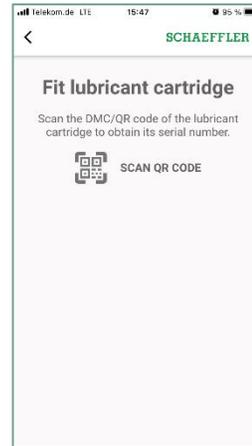
2

Scan Lubricator via NFC function for a second time



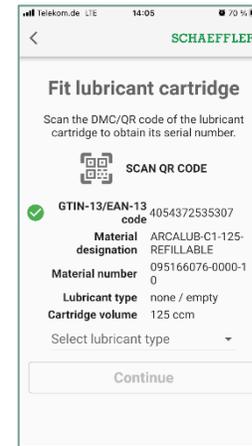
3

Give a name to the Lubricator and click "Continue"



4

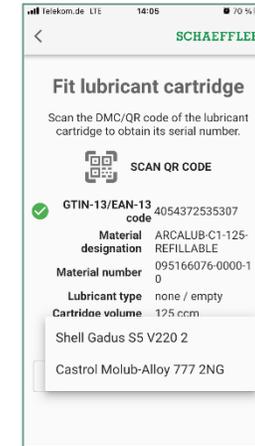
Scan QR-Code of the cartridge



5

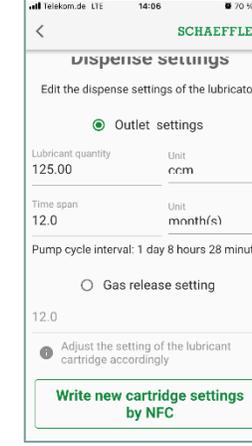
ARCANOL cartridge is automatically detected

Refillable one open a dropdown windows



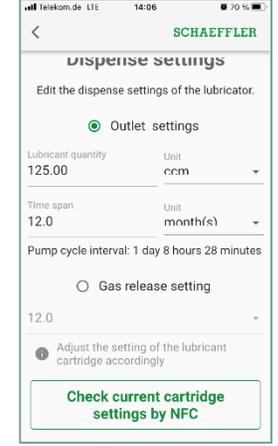
6

Select the grease type (only for refillable cartridges)



7

Give "Lubricant quantity" & "Time spam" or "Gas release setting" and write data via NFC

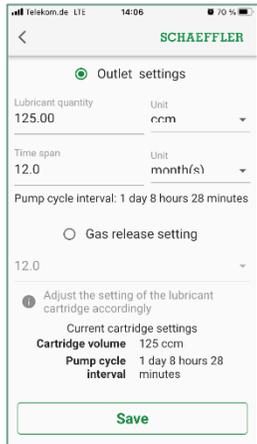


8

Confirm setting via NFC

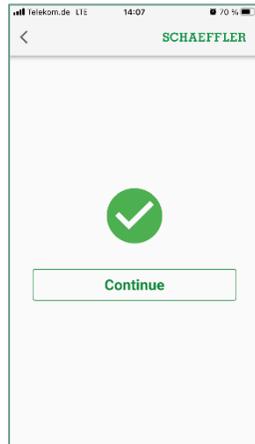
STEP 8: Provision of lubricators

Provision lubricator



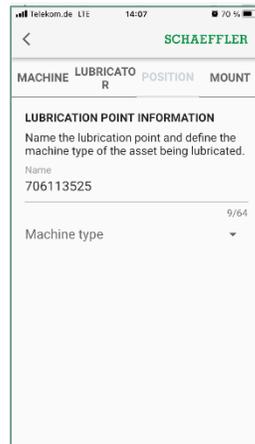
9

Click "Save"



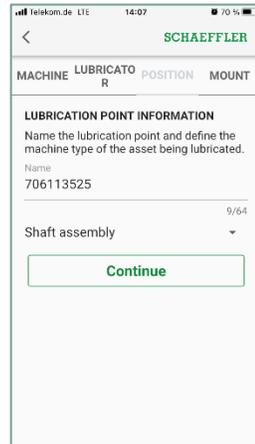
10

Click "Continue"



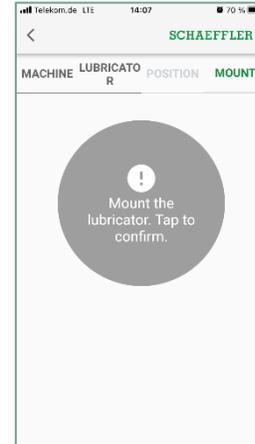
11

Give a name to lubrication point:
i.e: Outlet 1



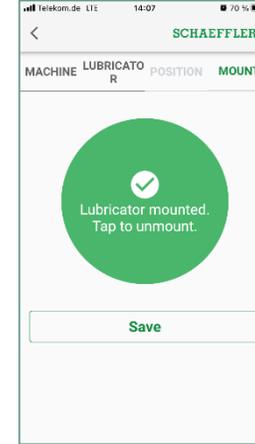
12

Select "machine type" from dropdown window (Level 5 – Lubricator)



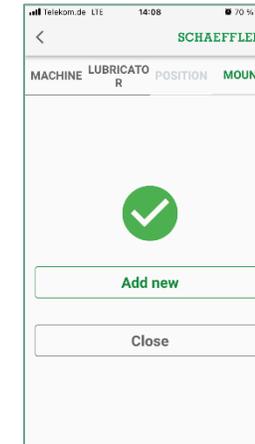
13

Mount Lubricator at lubrication point and tab grey circle to confirm



14

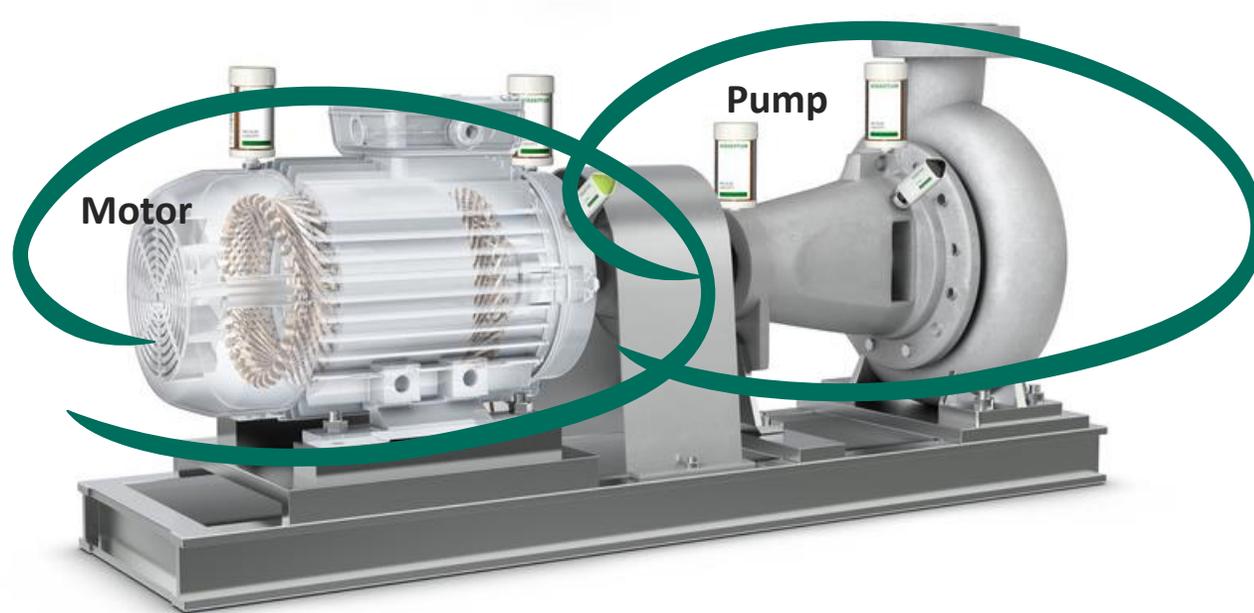
Finalize by **CLICKING SAVE!**



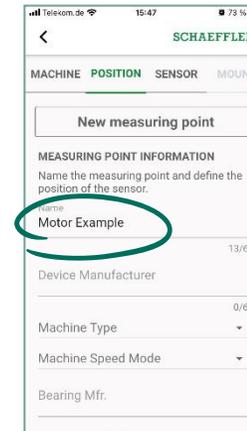
15

STEP 8: Provision of lubricators

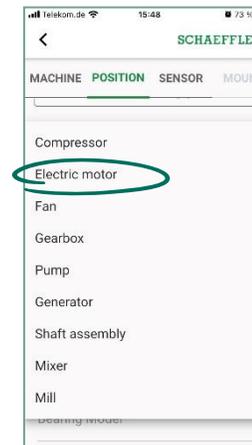
Which Information do I need to fill on “lubrication point level”?



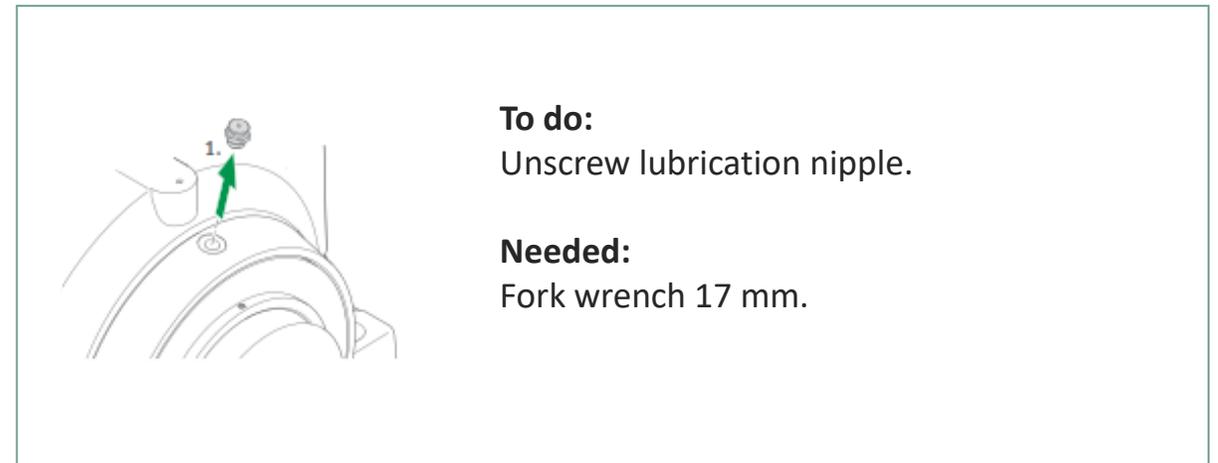
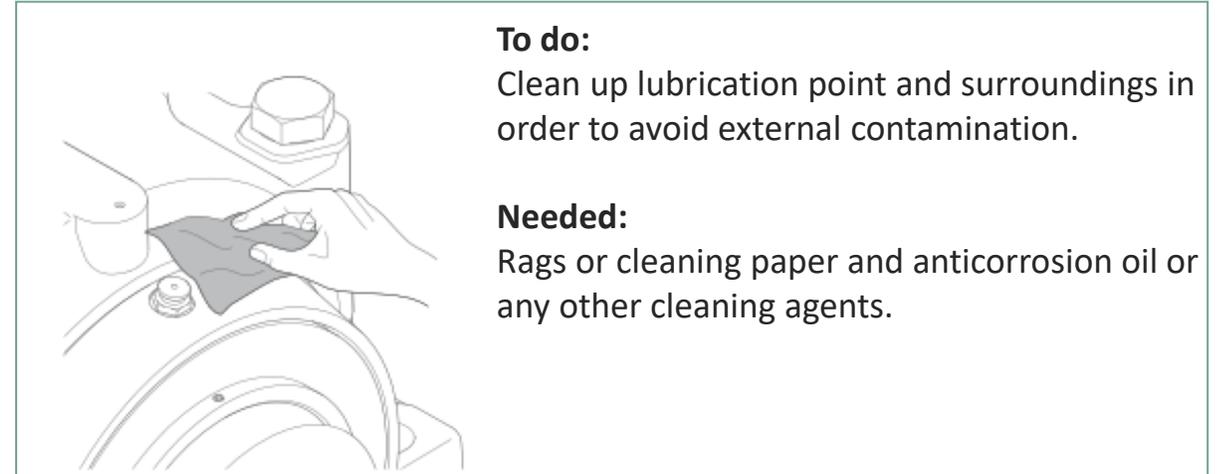
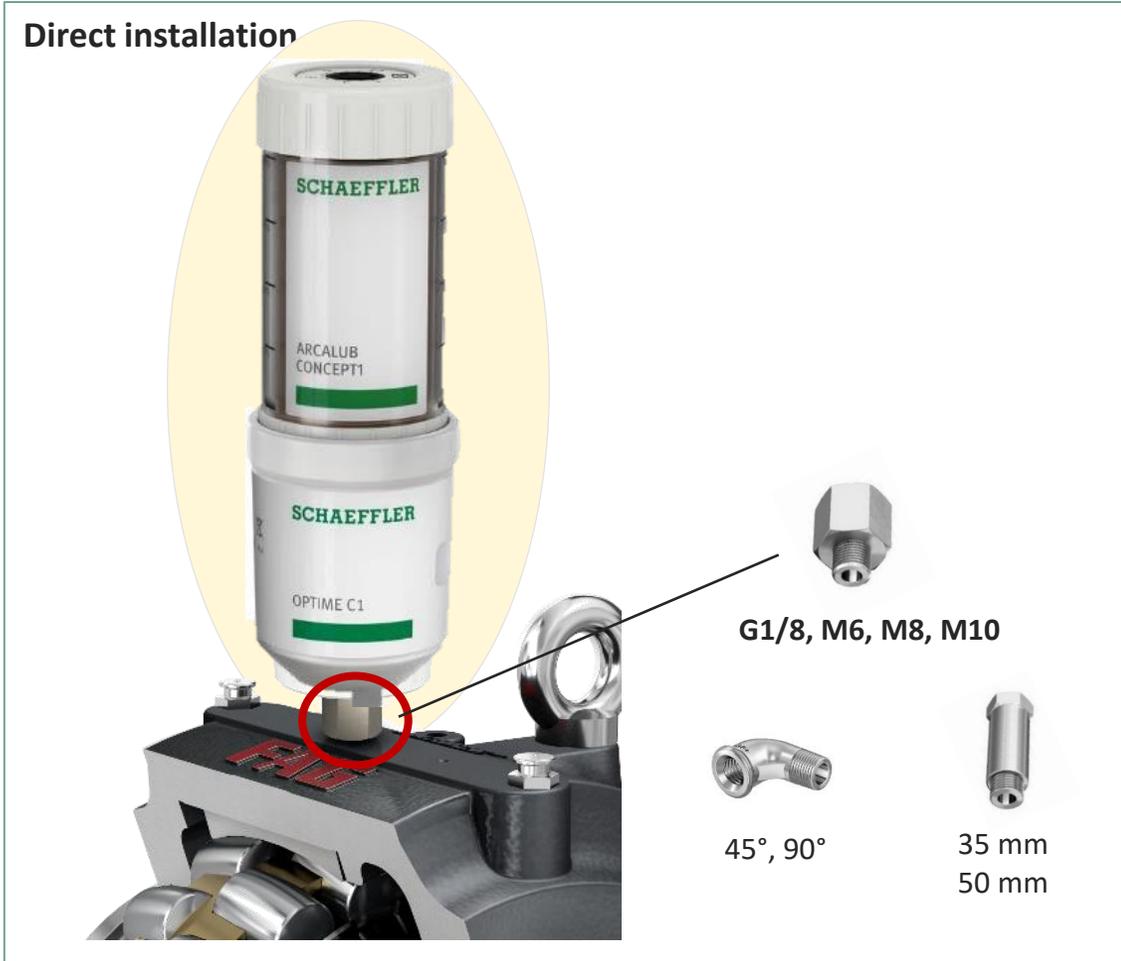
Mandatory information



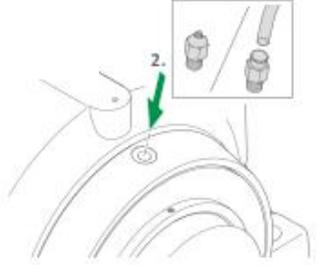
Complementary information



STEP 9: Mechanical mounting of OPTIME-C1 (Direct)

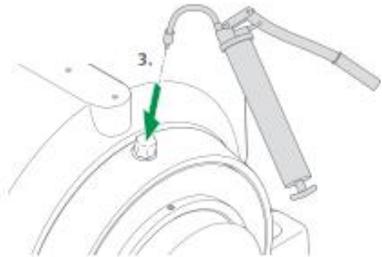


STEP 9: Mechanical mounting of OPTIME-C1



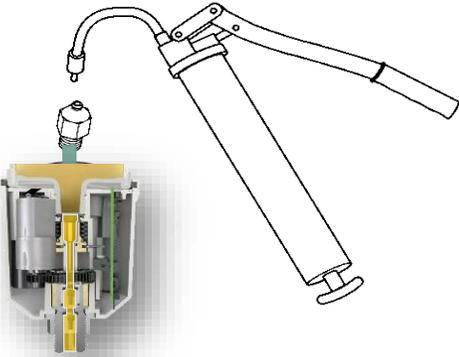
To do:
Screw the suitable adapter for the existing thread.

Needed:
Fork wrench 17 mm.
Suitable adapter → TPI 252, P27 (for example: **ARCALUB-C1.NIPPLE-M8-G1/4**).



To do:
Lubricate the point if it is needed.

Needed:
Grease gun (**ARCA-GREASE-GUN + ARCA-GREASE-GUN.HOSE**) → TPI 252, P115.
ARCANOL 400 gr cartridge → TPI 252, P116 or customer grease 400 gr cartridge.



To do:
Prefill the OPTIME-C1 using the right adapter.

Needed:
Grease gun (**ARCA-GREASE-GUN + ARCA-GREASE-GUN.HOSE**) → TPI 252, P115.
Prefill adapter (**OPTIME-LW-C1.NIPPEL-PREFILL-R1/4**).
ARCANOL 400 gr cartridge → TPI 252, P116 or customer grease 400 gr cartridge.



Thread	Ordering number	Ordering designation
G ₁		
G ¹ / ₈	095285792-0000-10	ARCALUB-C1.NIPPLE-G1/8-G1/4
G ¹ / ₄	095285784-0000-10	ARCALUB-C1.NIPPLE-G1/4-G1/4
G ³ / ₈	095285806-0000-10	ARCALUB-C1.NIPPLE-G3/8-G1/4
M6	095286071-0000-10	ARCALUB-C1.NIPPLE-M6-G1/4
M8	095286080-0000-10	ARCALUB-C1.NIPPLE-M8-G1/4
M8×1	095301585-0000-10	ARCALUB-C1.NIPPLE-M8X1-G1/4
M10	095286101-0000-10	ARCALUB-C1.NIPPLE-M10-G1/4
M10×1	095286721-0000-10	ARCALUB-C1.NIPPLE-M10X1-G1/4
M12	095286730-0000-10	ARCALUB-C1.NIPPLE-M12-G1/4
M12×1,5	095286748-0000-10	ARCALUB-C1.NIPPLE-M12X1,5-G1/4
UNF ¹ / ₄	095286756-0000-10	ARCALUB-C1.NIPPLE-UNF1/4-G1/4



Type	Ordering number	Ordering designation
400-g cartridge containing		
Arcanol CLEAN-M	069429111-0000-10	ARCANOL-CLEAN-M-400G
Arcanol FOOD2	019143648-0000-10	ARCANOL-FOOD2-400G
Arcanol LOAD150	055358152-0000-10	ARCANOL-LOAD150-400G
Arcanol LOAD220	064741028-0000-10	ARCANOL-LOAD220-400G
Arcanol LOAD400	019143818-0000-11	ARCANOL-LOAD400-400G
Arcanol LOAD460	065825144-0000-10	ARCANOL-LOAD460-400G
Arcanol Multi2	019143893-0000-11	ARCANOL-MULTI2-400G
Arcanol Multi3	016727355-0000-11	ARCANOL-MULTI3-400G
Arcanol Multitop	019144016-0000-11	ARCANOL-MULTITOP-400G
Arcanol SPEED2,6	062447610-0000-10	ARCANOL-SPEED2,6-400G
Arcanol TEMP90	019144172-0000-10	ARCANOL-TEMP90-400G
Arcanol TEMP110	019144075-0000-10	ARCANOL-TEMP110-400G
Arcanol Vib3	055289568-0000-10	ARCANOL-VIB3-400G

STEP 9: Mechanical mounting of OPTIME-C1

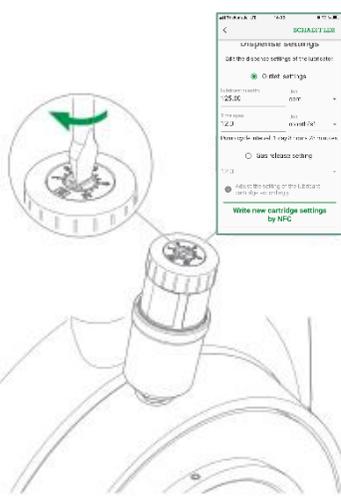
To do:
Put the OPTIME-C1 into operation as described in step 8

Needed:
OPTIME-App
Customer Tenant

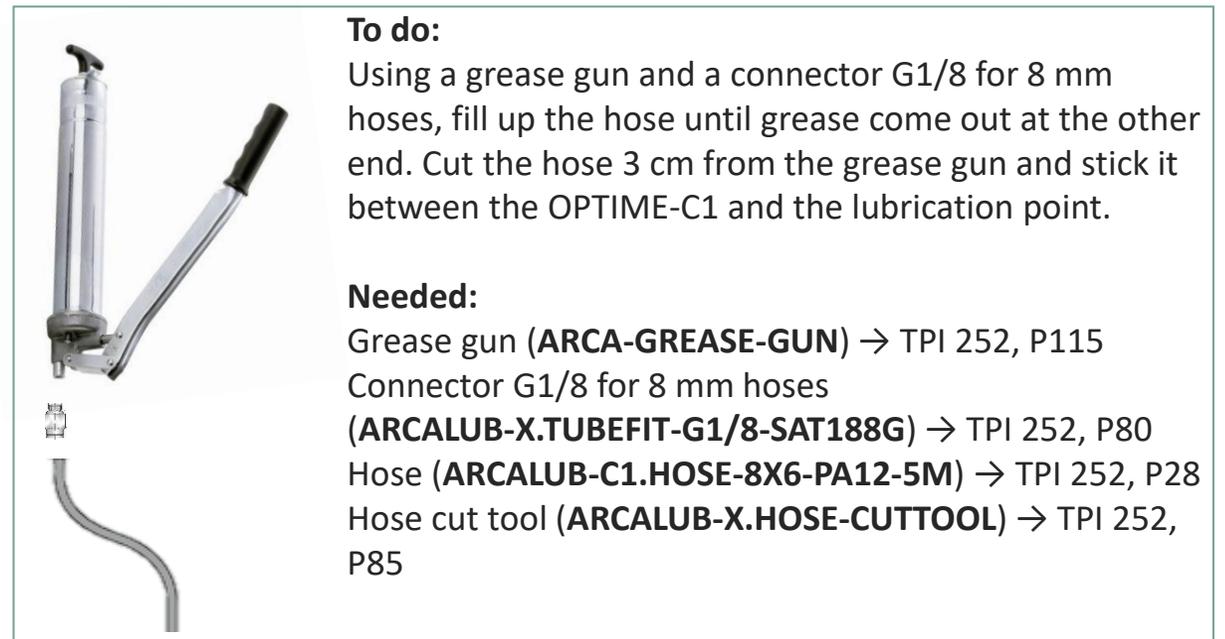
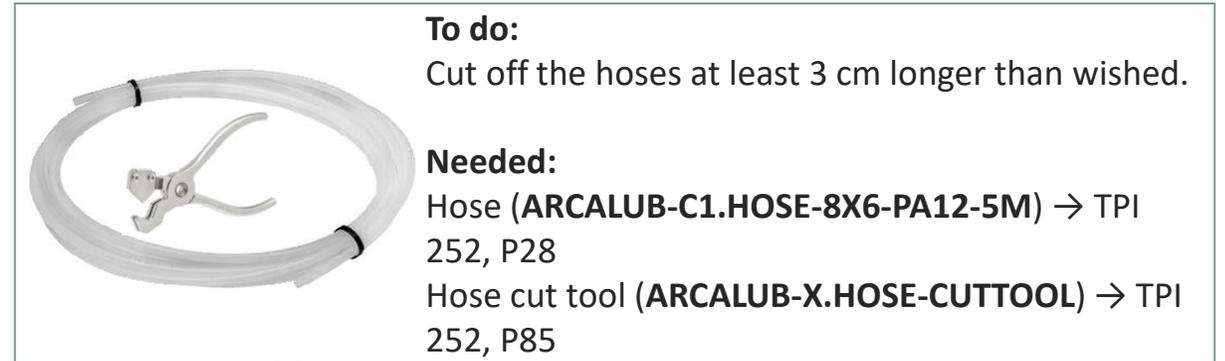
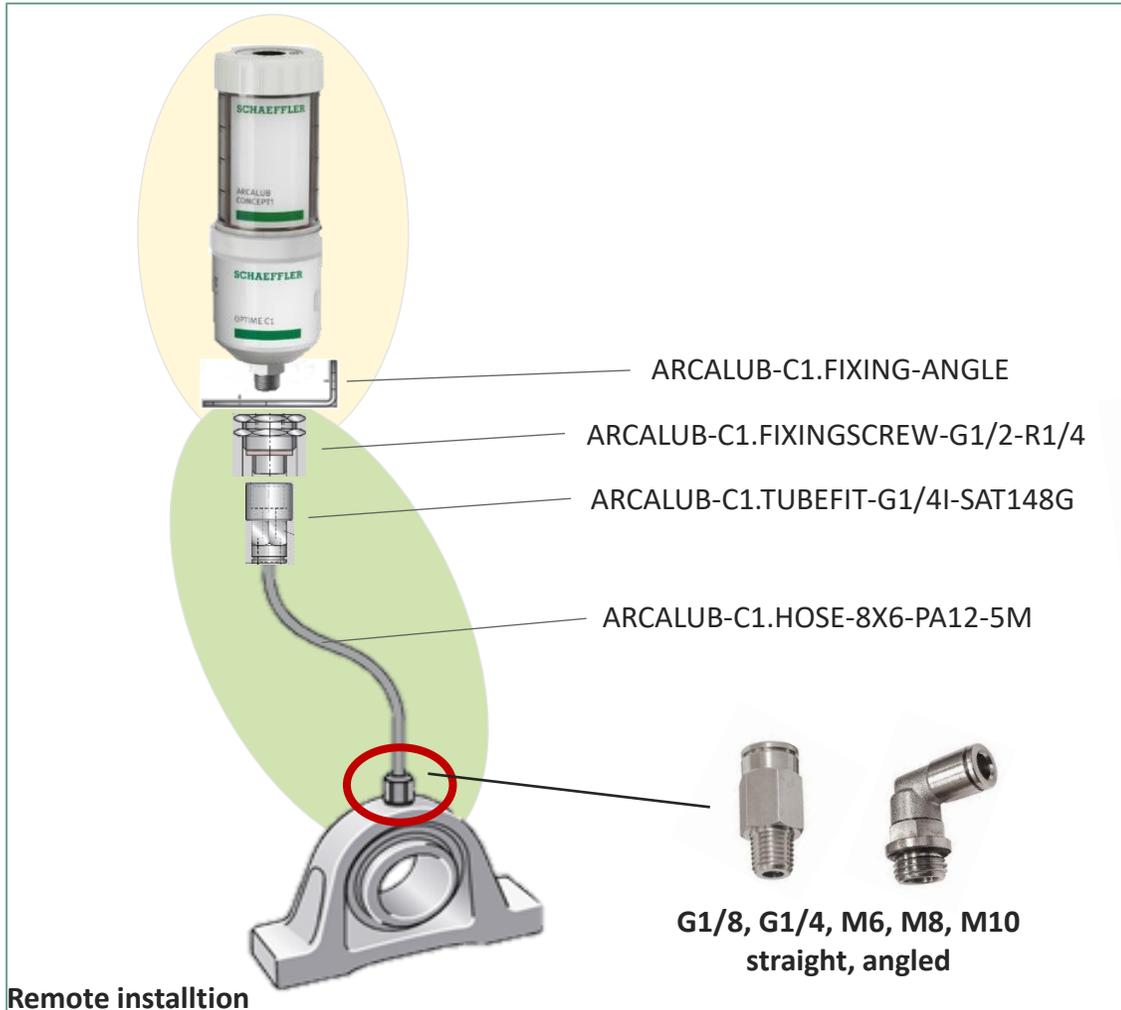


To do:
Activate the gas cell with the same time as the device was set.

Needed:
Screwdriver or a coin.



STEP 9: Mechanical mounting of OPTIME-C1 (Remote)



Agenda

- 1 Preparation
- 2 Let's get started
- 3 Check after installation**

3.1 STEP 10: Check first data in Dashboard & App

STEP 10: Check first data in Dashboard

Check on Dashboard starting page

- 1 Choose the “Department” in which the lubricators have been provisioned
- 2 Check if new provisioned sensors appeared
- 3 Navigate to “ALL LUBRICATORS” view

Check on “ALL LUBRICATORS2 view

- 4 Check all lubricators belonging to the department
- 5 Check filling level of cartridges
- 6 Check “Days until Empty”
- 7 Check operating status normal

STEP 10: Check first data in Dashboard

The screenshot shows the OPTIME dashboard for a Schaeffler lubricator. The breadcrumb navigation at the top reads: PROCESS AREA (Ro V) > DEPARTMENT (Pressenbereich) > MACHINE (Presse EVO 3608) > MEASURING POINT (Schwungrad 1 1358511613) > ADMINISTRATION > ALL LUBRICATORS > LUBRICATOR.

The main content area is titled "Schwungrad 1 1358511613" and is divided into three main sections:

- Lubricator Details:** Shows a "Normal" status icon and a list of attributes:
 - Lubricator ID: 626278021
 - Lubricator type: C1-S
 - Lubricant type: ARCANOL-FOOD2 (marked with a green circle 1)
 - Cartridge volume: 125 ccm
 - Installed: 2021-10-25
 - Last data received: 2022-01-24 11:29:59
- Fill level:** Shows a 92% fill level with a corresponding bar chart. A legend indicates:
 - Normal (Grey)
 - Almost empty (Yellow)
 - Empty (Red)
- Outlets:** A table showing the outlet status:

Device	Outlet	Operating status
	Schwungrad 1	Normal

On the right side of the dashboard, a vertical list of metrics is displayed, each with a green circle number:

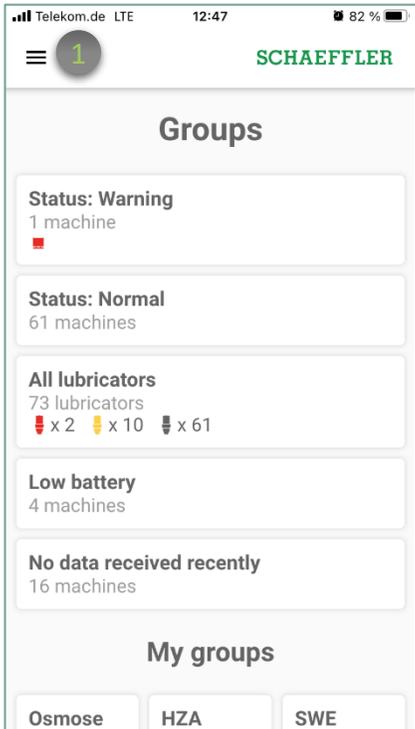
- Operating status: Normal
- Mesh network: Connected
- Battery status: Normal
- Gas release setting: 6.0
- Last filling date: 12.1.2022
- Last filling date: 12.1.2022
- Days left until empty: 166

At the bottom of the dashboard, there are buttons for "REFRESH DASHBOARD" and "ALL LUBRICATORS". The footer navigation bar includes "OPTIME dashboard" (selected), "SCHAEFFLER", and a breadcrumb trail: Process area > Department > Group > Machine > Measuring point > ... > +.

Check at Lubricator level

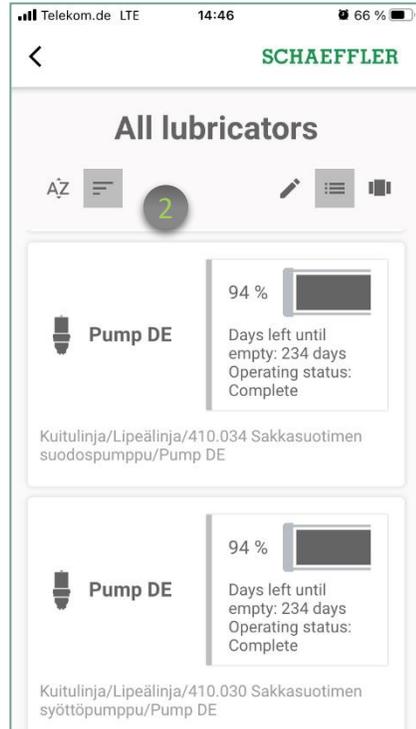
- Grease type
- Filling level
- Operating status
- Mesh network
- Battery status
- Gas release setting
- Last filling date
- Days until empty

STEP 10: Check first data App



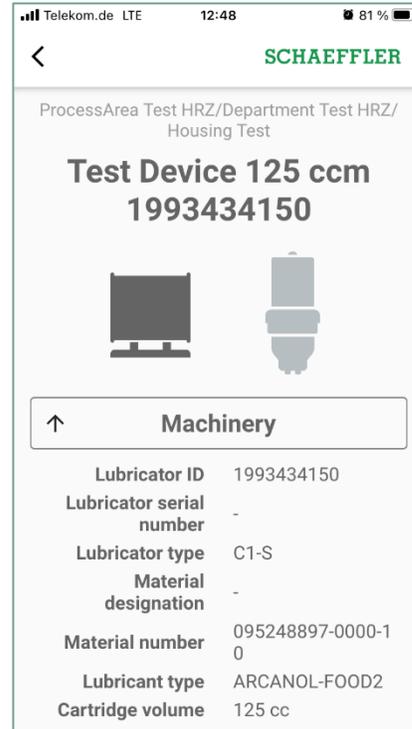
1

Click "All lubricators" button



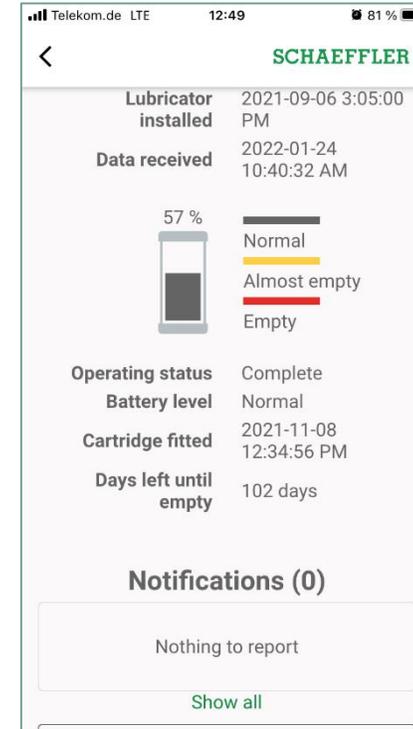
2

Chose the wanted machine



3

Check grease type



4

Check Fill level and days until empty

Good luck!

Also check out our presentation
“OPTIME in operation” for further
instructions!

