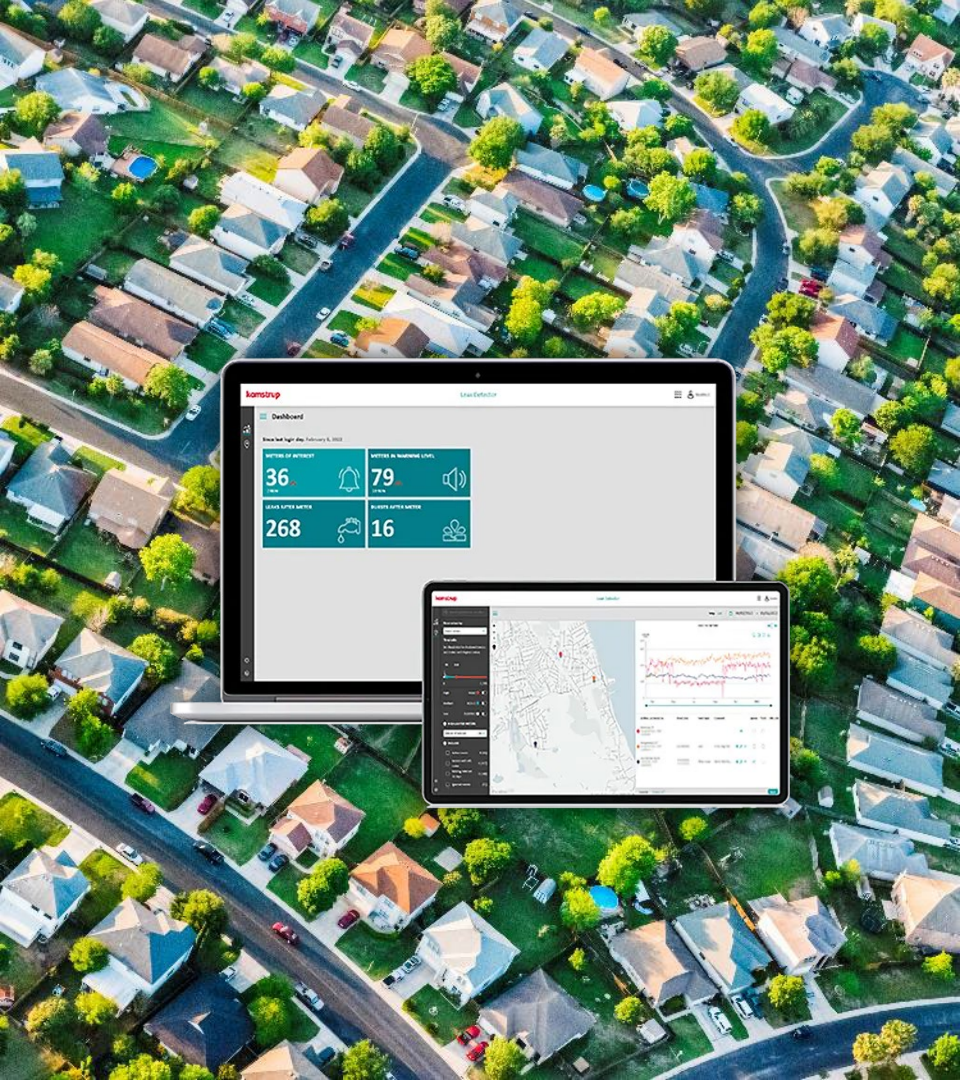


kamstrup

Leak Detector

Application guide

INTRO

Intro – brief introduction

Welcome to the Kamstrup Water Intelligence platform!

Dear customer
Thank you for choosing us as your preferred Analytics platform. Before you deep dive into data and analysis, we would like to give you a short introduction to the software to give you the best possible start.

What is Water Intelligence?

At Kamstrup, we believe that smart meter data can be used for so much more than just accurate billing. Therefore, we have created our Water Intelligence platform that does exactly that: *turns raw data into value and overview.*

In the following pages, you will become familiar with our solutions and learn how to use them within your own water utility. If you have any questions along the way, please do not hesitate to contact us!

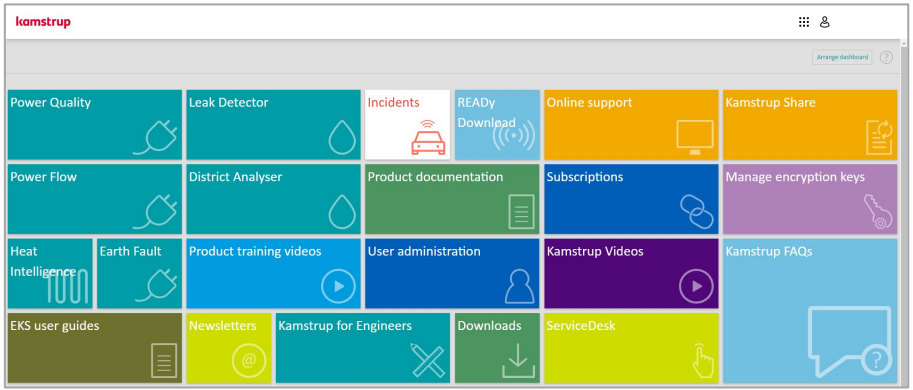
We wish you a great journey through the many possibilities of using smart meter data!

Intro – get access to the application

Log in to the platform

At Kamstrup, we believe in simplicity. Therefore, you only need one login for all our solutions. To access your solutions, please go to https://apps.kamstrup.com/, click log in and enter your email and password, the same as you are using for READy, My Kamstrup and Encryption Key Service.

When you are logged in, you can simply choose the application in the dashboard (see picture below). If you cannot access the application, this might be due to insufficient user rights. To solve this, please ask your My Kamstrup superuser to grant you access to “Analytics”. You can find your My Kamstrup superuser by going to “My Profile” under https://service.kamstrup.com/my-profile.



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- Understanding the data graph
- Tracking a meter
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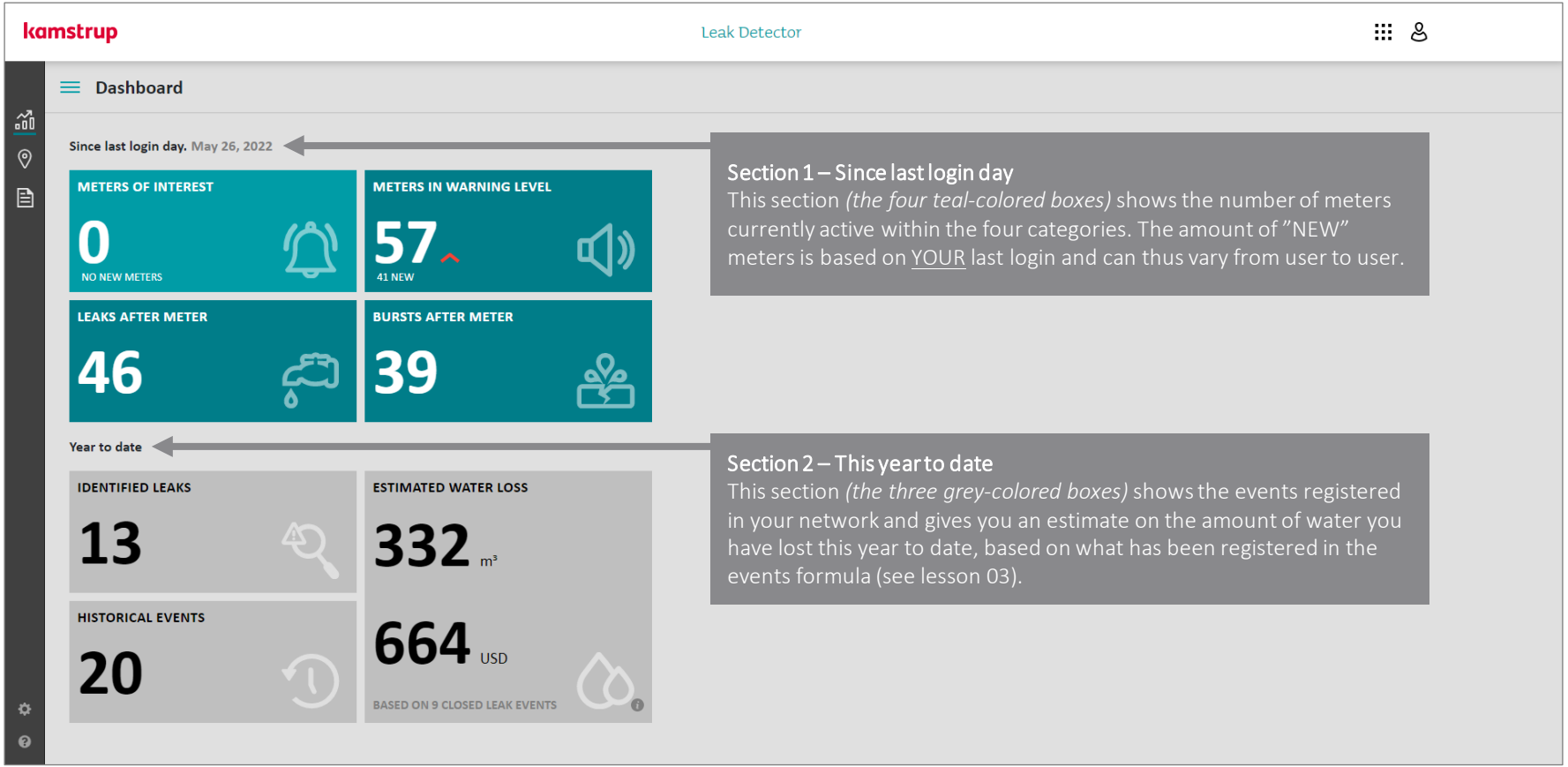
- Comparing meters to find the relevant cases

Lesson 01

Understanding your dashboard

Lesson 01 – Understanding your Dashboard

The dashboard in Leak Detector gives you a quick overview of your distribution network, which can help you prioritize your leak detection resources in the most efficient way possible.



Section 1 – Since last login day

This section *(the four teal-colored boxes)* shows the number of meters currently active within the four categories. The amount of "NEW" meters is based on YOUR last login and can thus vary from user to user.

Section 2 – This year to date

This section *(the three grey-colored boxes)* shows the events registered in your network and gives you an estimate on the amount of water you have lost this year to date, based on what has been registered in the events formula (see lesson 03).

Lesson 01 – Understanding your Dashboard

The first part of your dashboard breaks down the health of your distribution network into four categories, based on either a meter's registered noise level, or its info codes.

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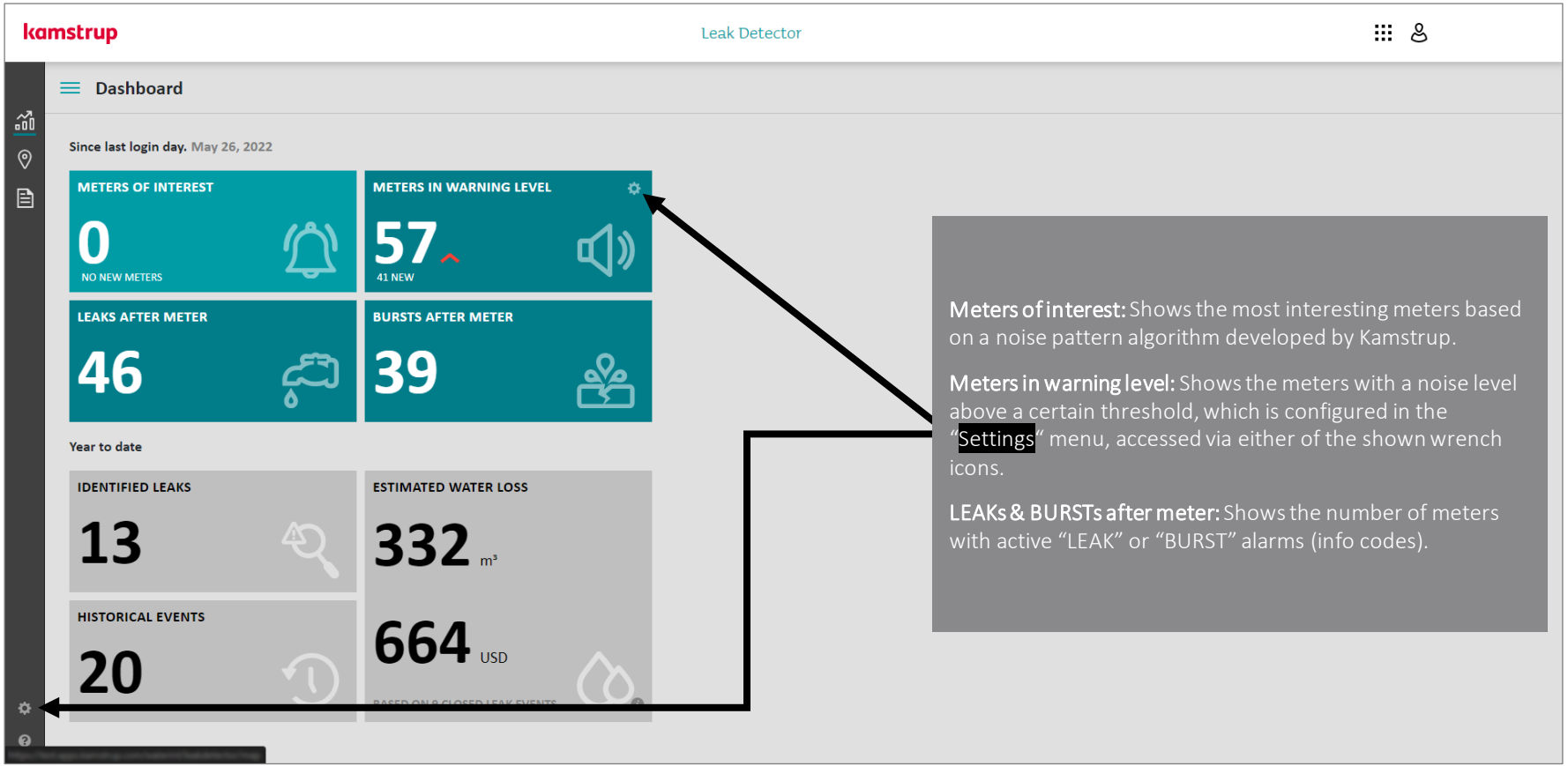
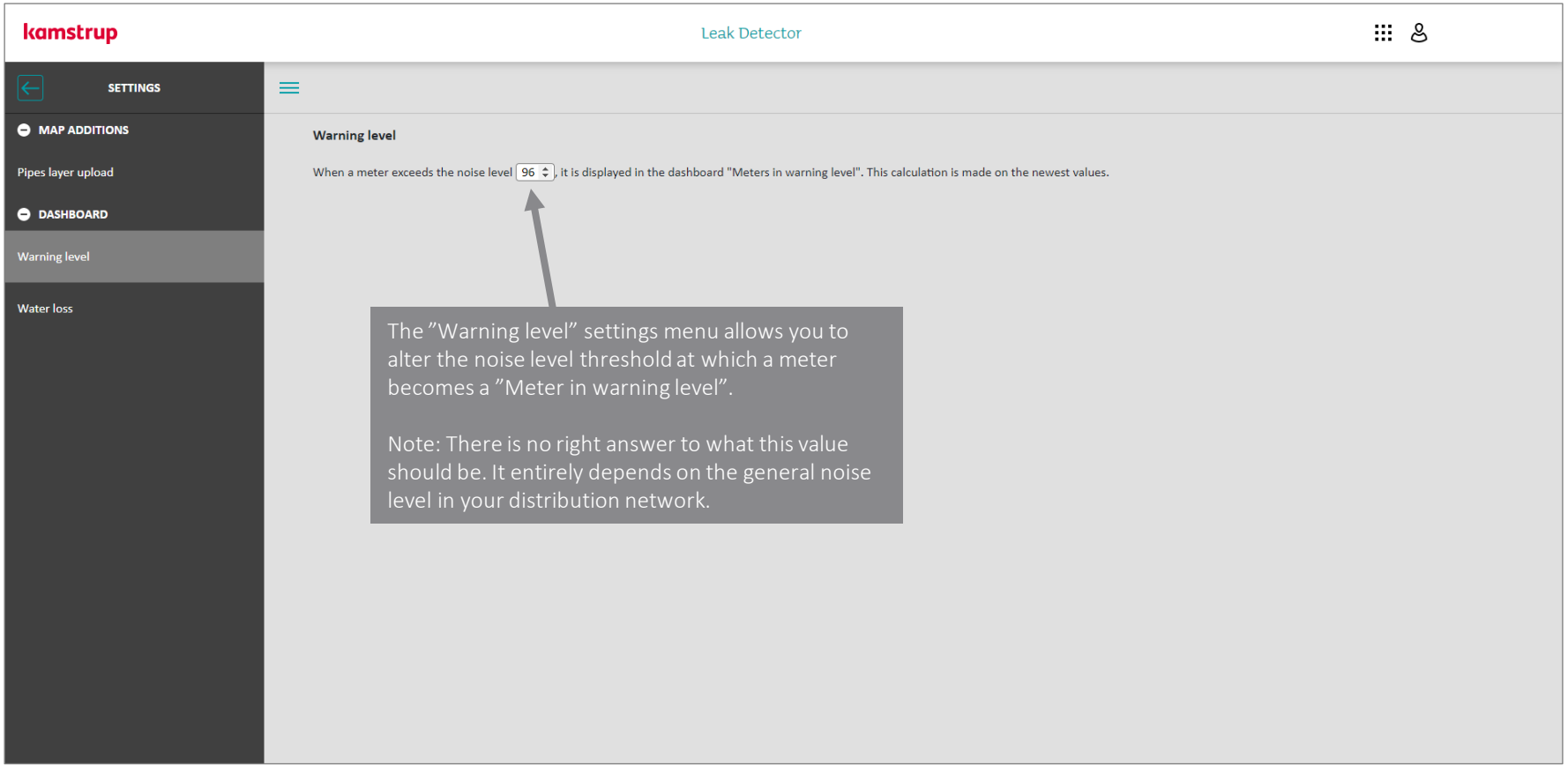
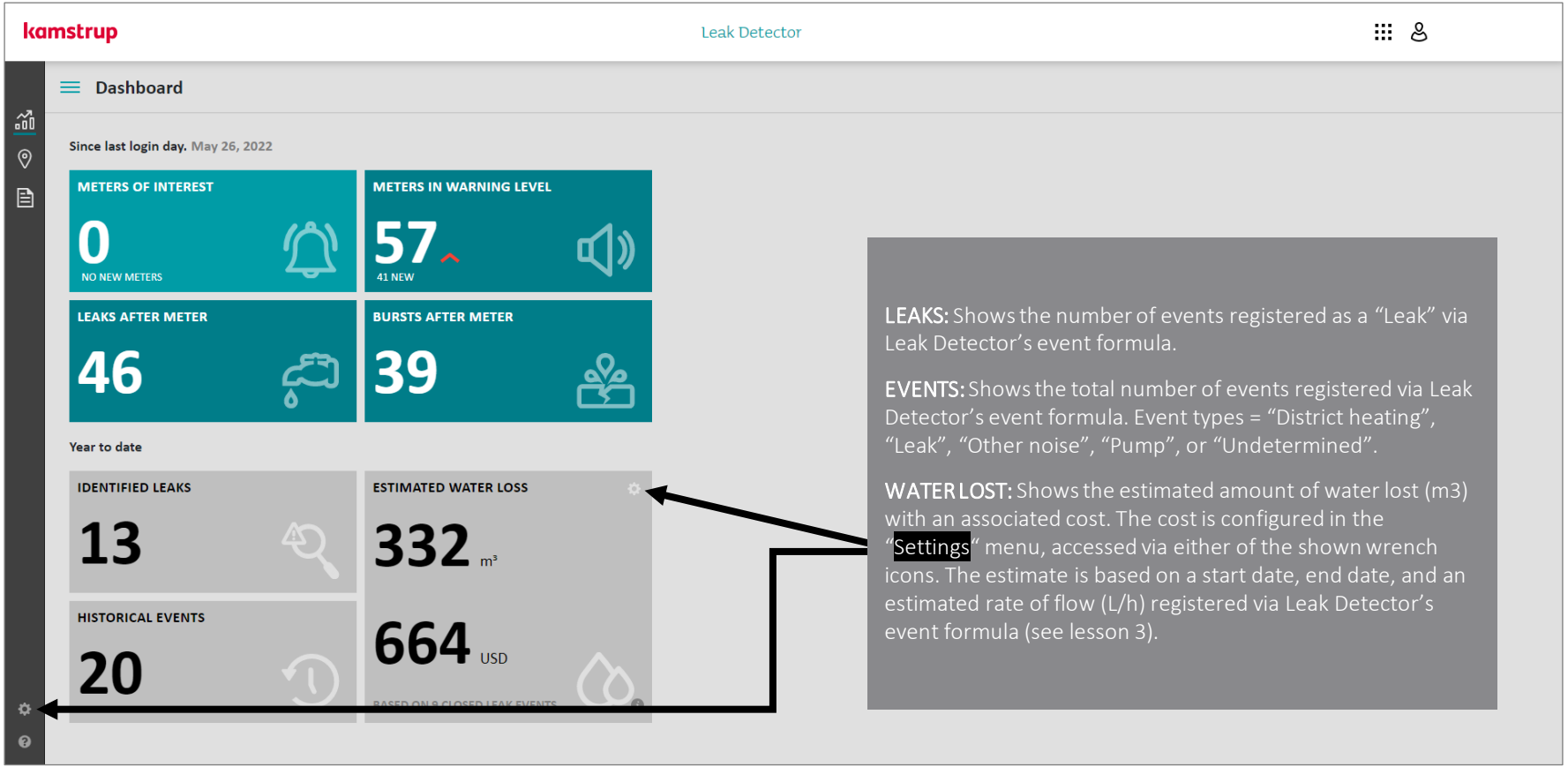


Meters of interest: Shows the most interesting meters based on a noise pattern algorithm developed by Kamstrup.

Meters in warning level: Shows the meters with a noise level above a certain threshold, which is configured in the "Settings" menu, accessed via either of the shown wrench icons.

LEAKs & BURSTs after meter: Shows the number of meters with active "LEAK" or "BURST" alarms (info codes).


kamstrup
Leak Detector
SETTINGS
MAP ADDITIONS
Pipes layer upload
DASHBOARD
Warning level
Water loss
Warning level
When a meter exceeds the noise level 96 , it is displayed in the dashboard "Meters in warning level". This calculation is made on the newest values.
The ”Warning level” settings menu allows you to alter the noise level threshold at which a meter becomes a ”Meter in warning level”.
Note: There is no right answer to what this value should be. It entirely depends on the general noise level in your distribution network.

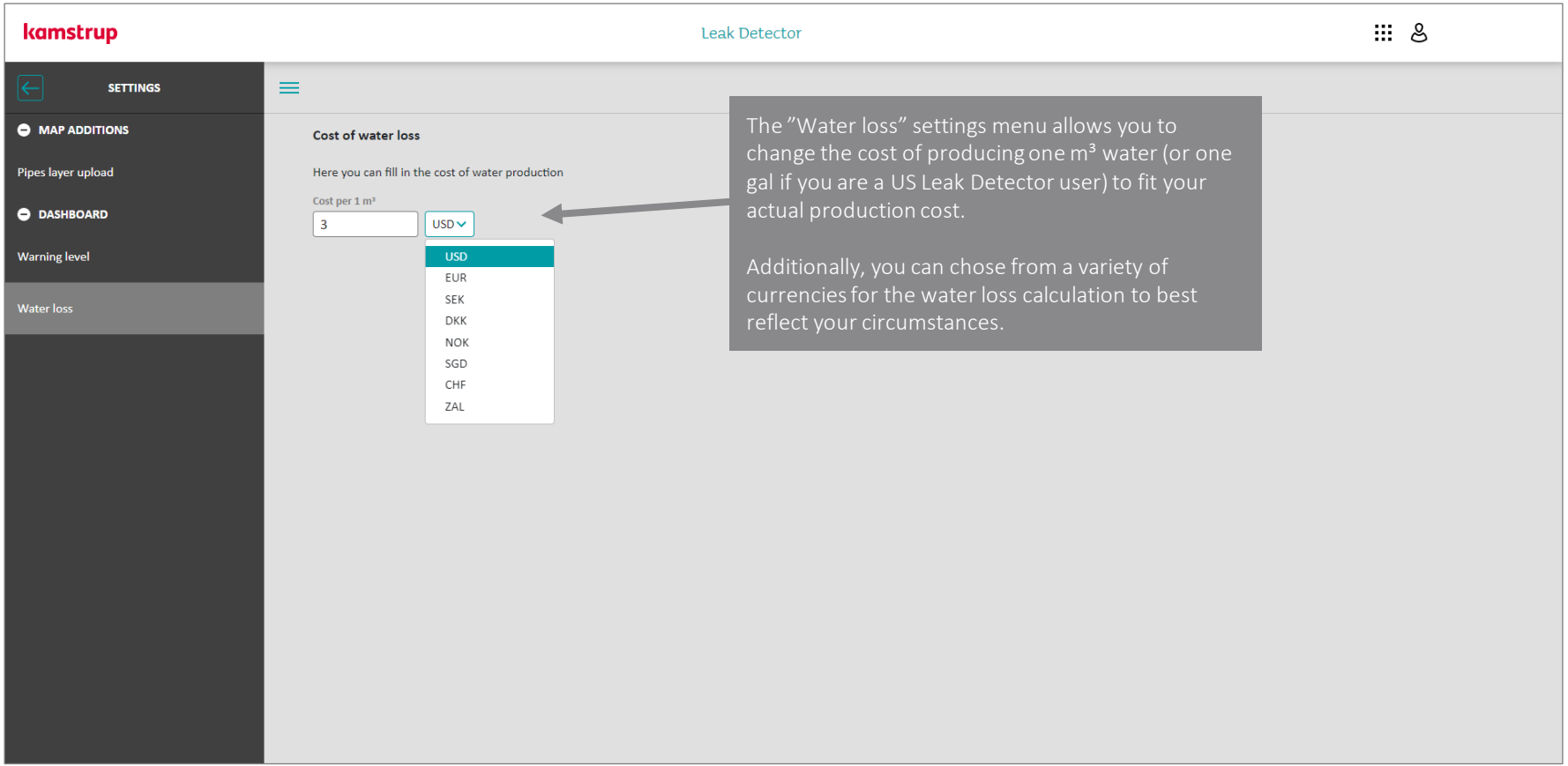


LEAKS: Shows the number of events registered as a "Leak" via Leak Detector's event formula.

EVENTS: Shows the total number of events registered via Leak Detector's event formula. Event types = "District heating", "Leak", "Other noise", "Pump", or "Undetermined".

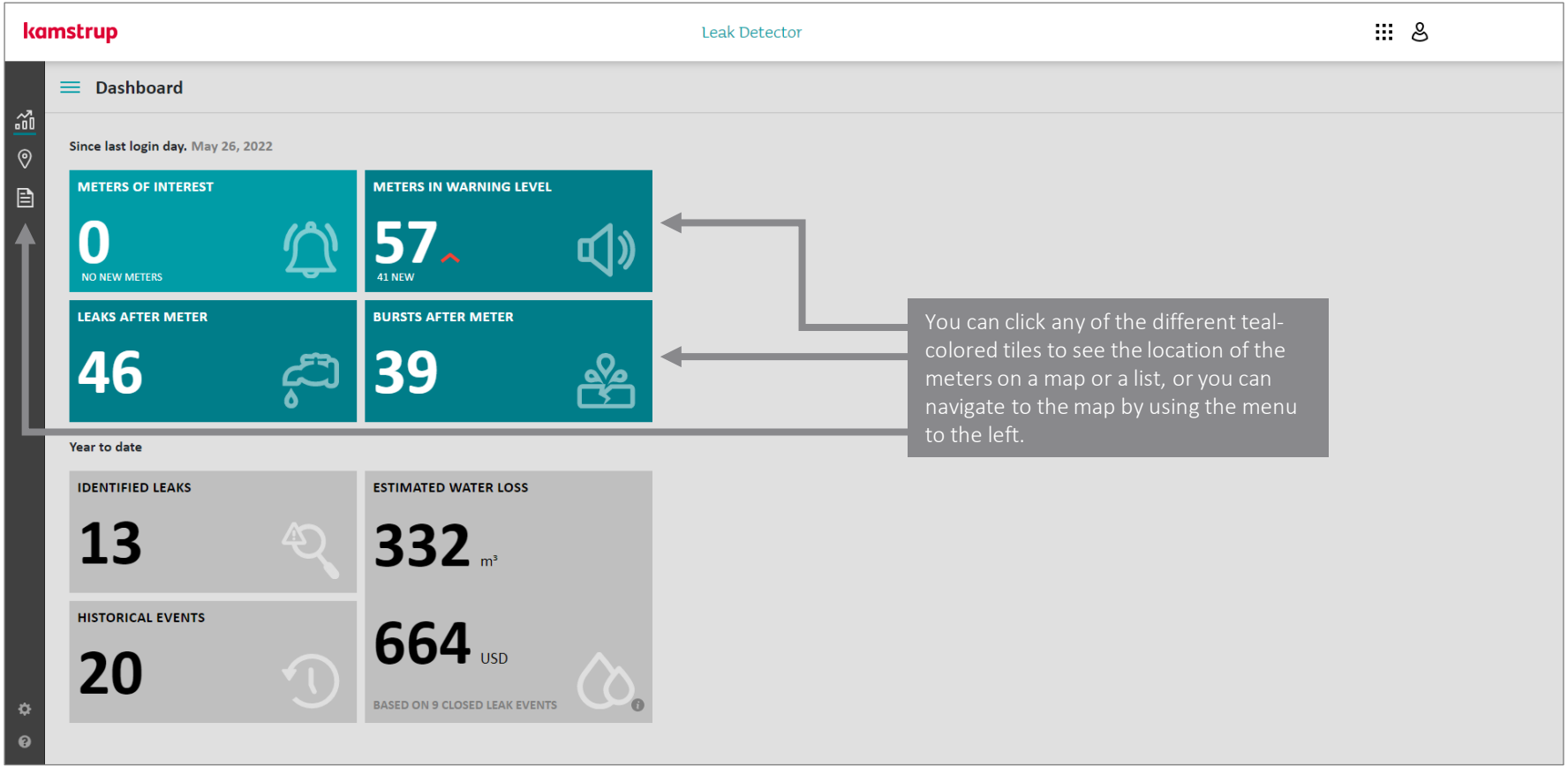
WATER LOST: Shows the estimated amount of water lost (m3) with an associated cost. The cost is configured in the "Settings" menu, accessed via either of the shown wrench icons. The estimate is based on a start date, end date, and an estimated rate of flow (L/h) registered via Leak Detector's event formula (see lesson 3).

In the Settings menu, you can change the cost and currency used to calculate the water loss presented in the Leak Detector dashboard.



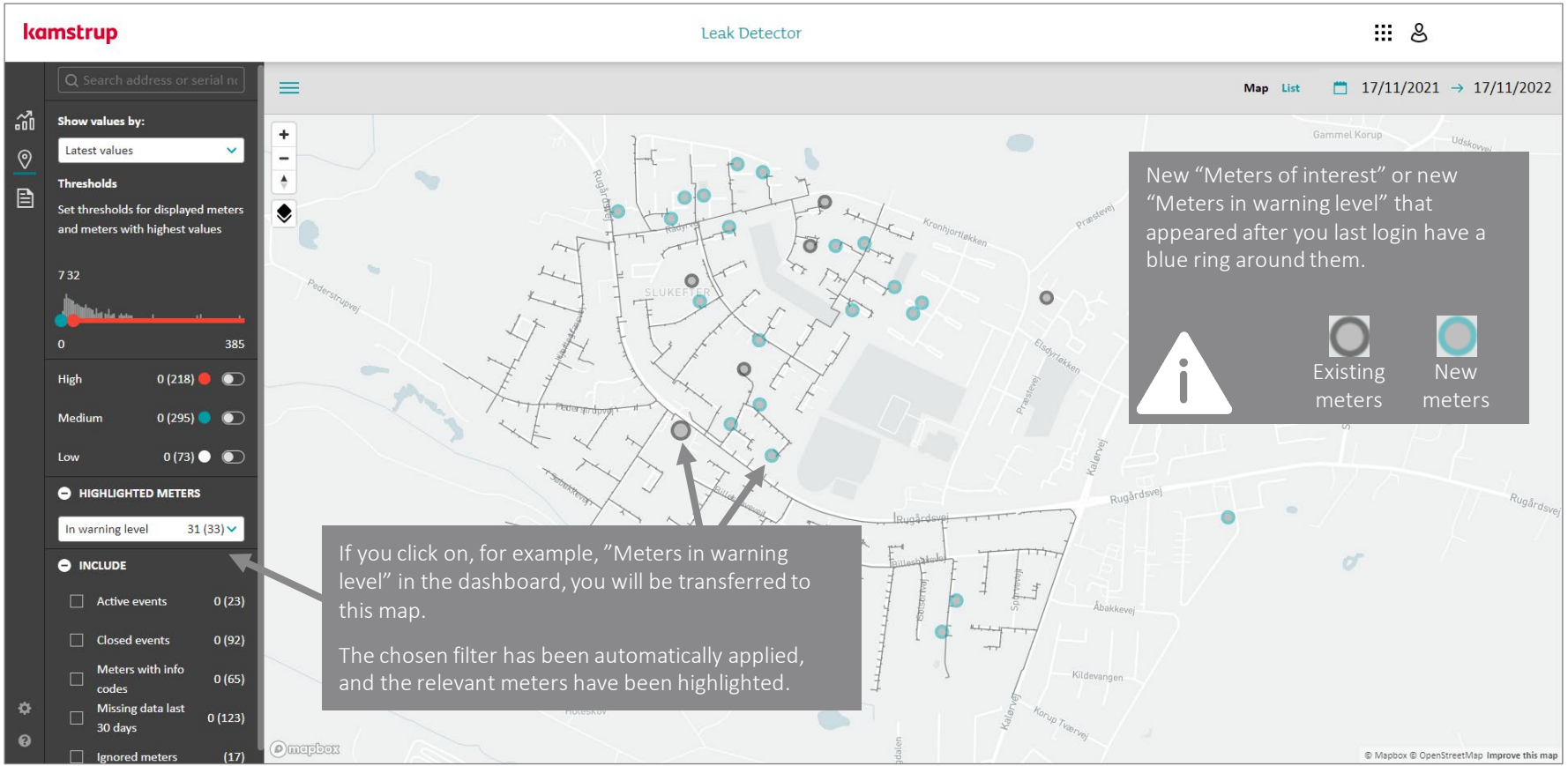
Lesson 01 – Understanding your Dashboard

The dashboard in Leak Detector works as an entrance to the rest of Leak Detector. Via the map view, you can get an overview of the meters you find relevant.



Lesson 01 – Understanding your Dashboard

Clicking any of the teal-colored dashboard tiles takes you to the map view. This view is filtered based on the tile you clicked.

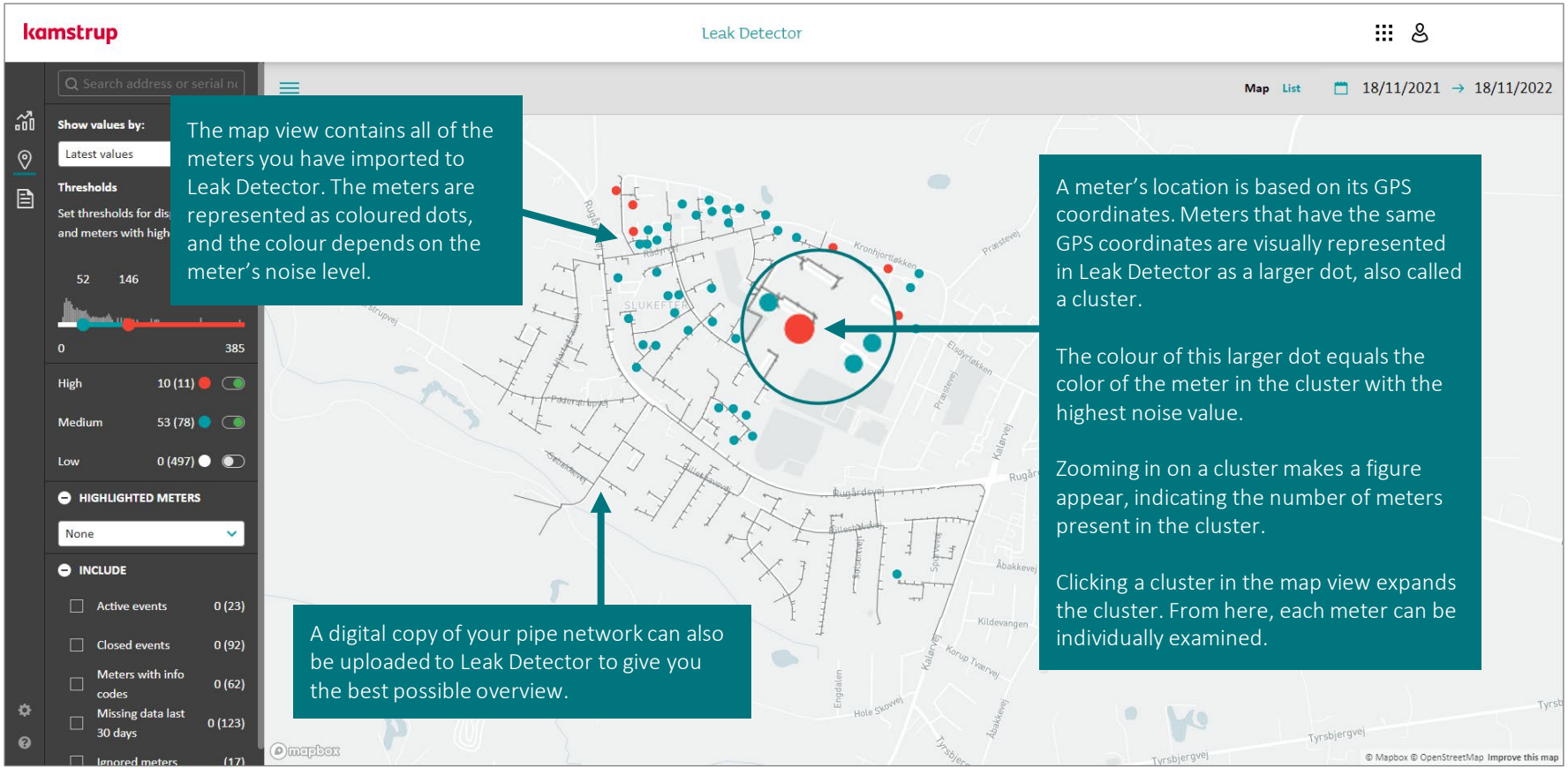


Lesson 02

Using your map view

Lesson 02 – Using your map view

The map view in Leak Detector gives you a simple visual overview of your distribution network with meters represented as colored dots.



Lesson 02 – Using your map view

Applying a filter is a great way to find a meter that has a potential leakage. If you had to target every single meter every time, you would never get anything done, which is why filters are useful.

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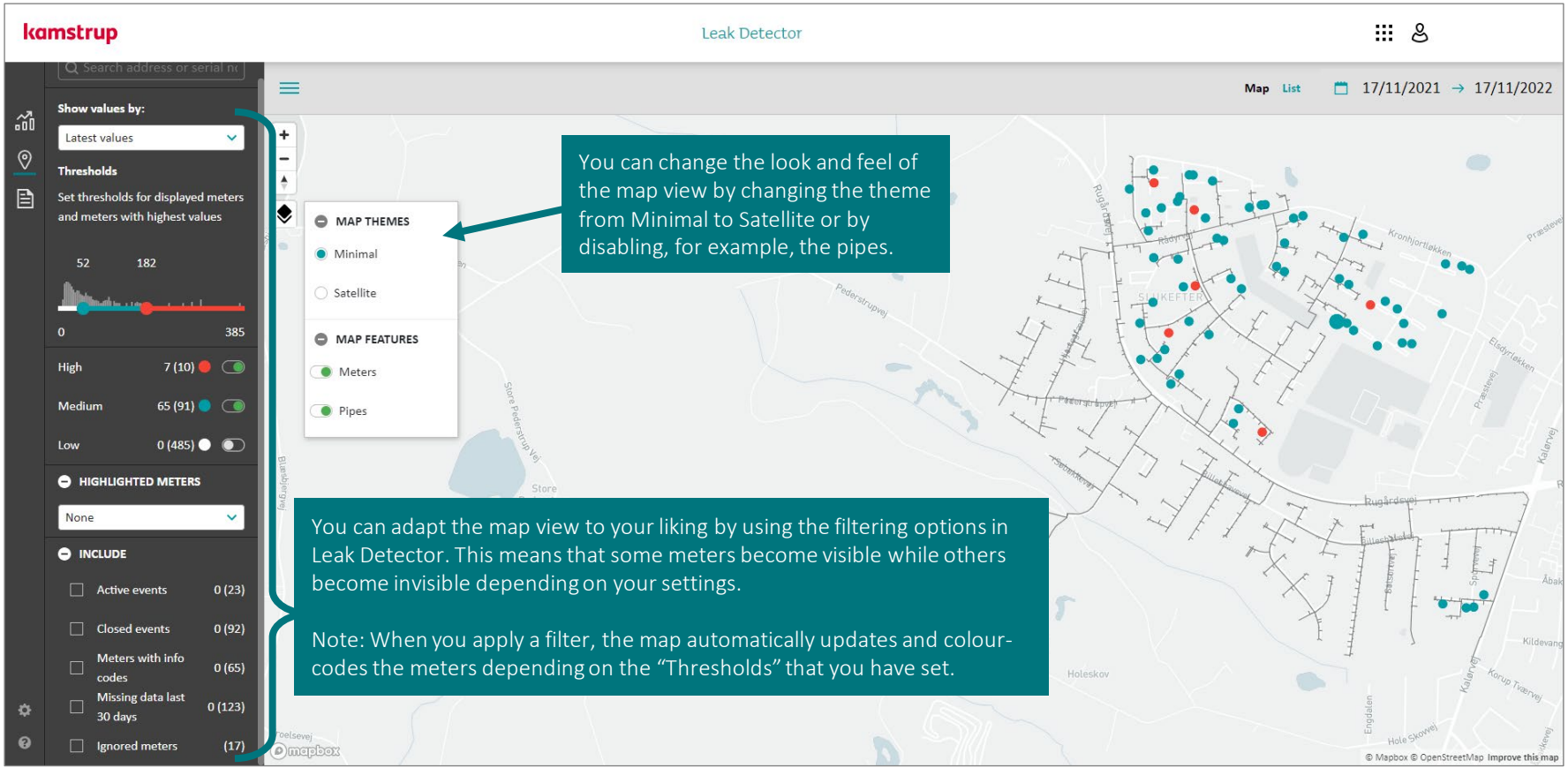
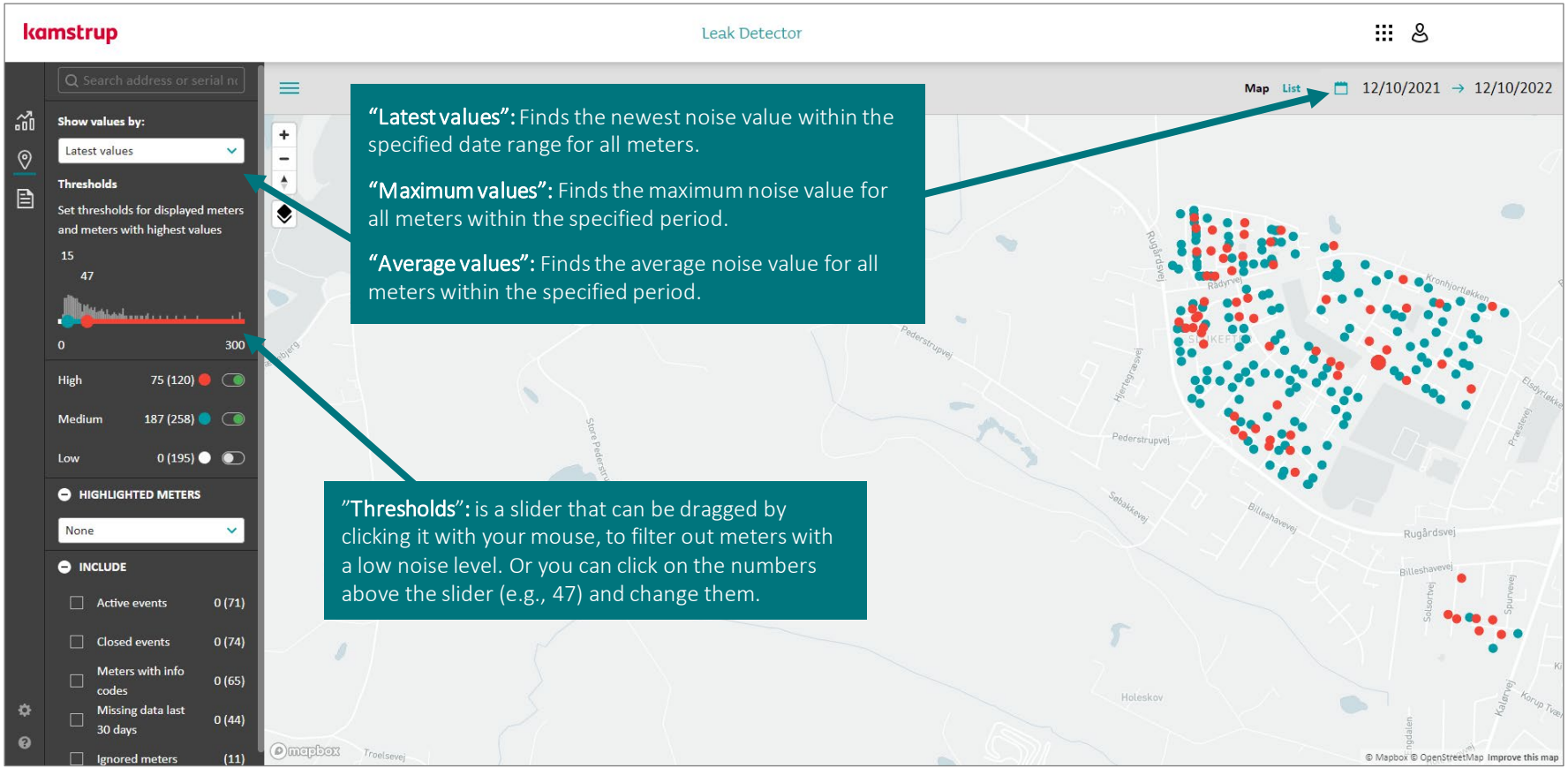


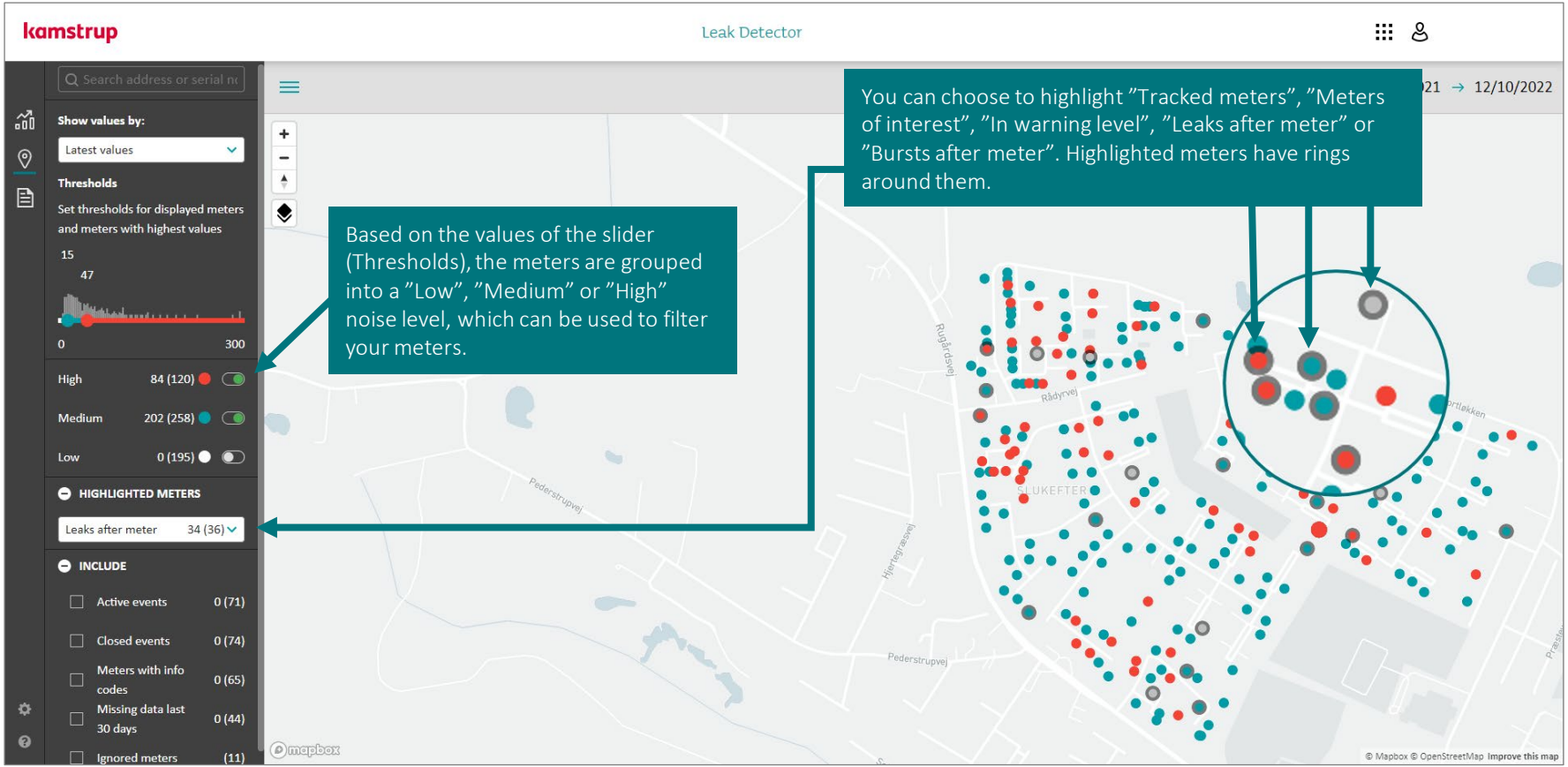
Lesson 02 – Using your map view

Before we get into what Leak Detector can really do, you need to understand the filtering system. The filtering system is quite simple as it consists of four different filters in the left sidebar.



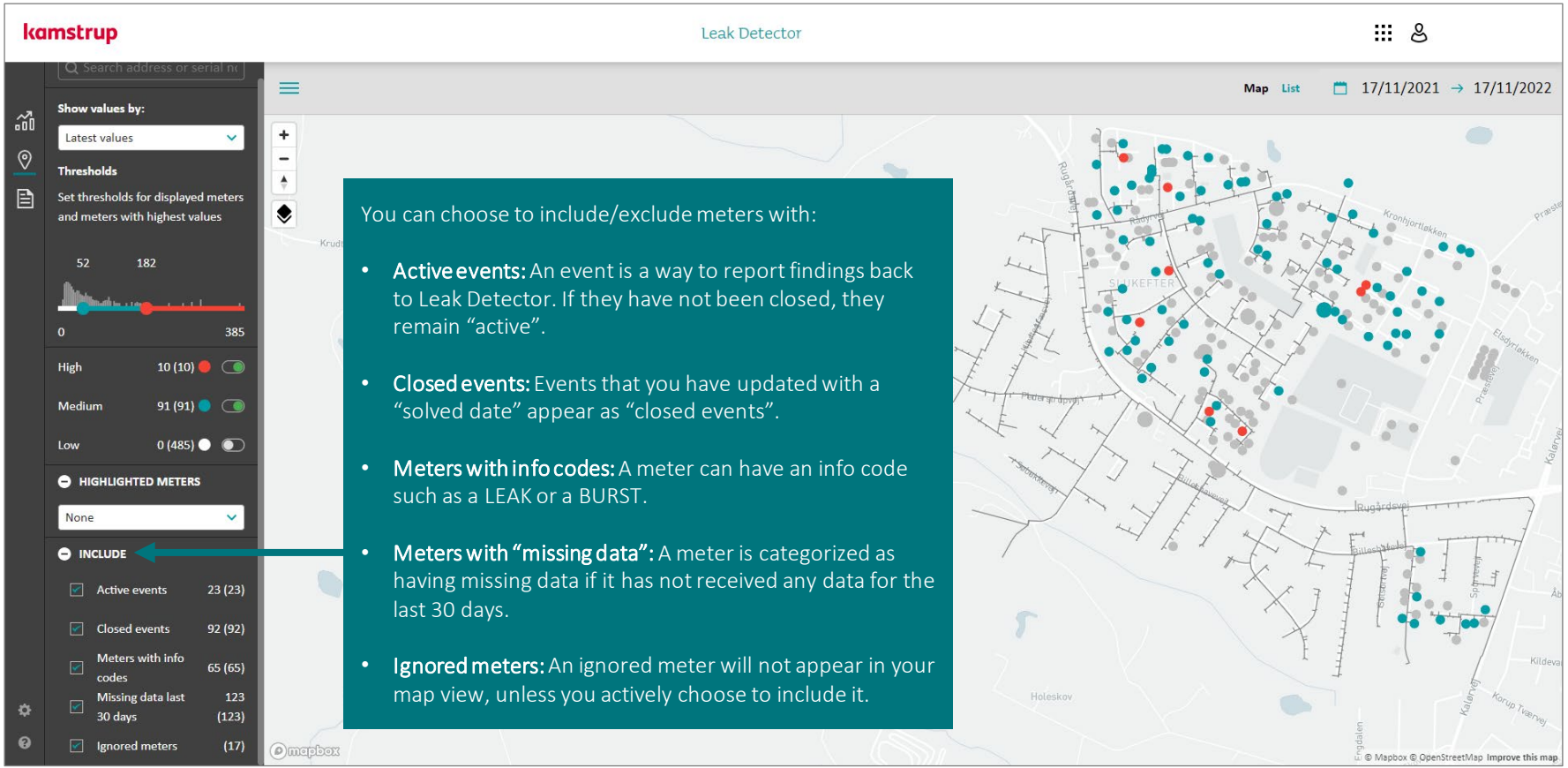
Lesson 02 – Using your map view

You can filter your view based on noise category, and you can choose to highlight specific meters depending on what you want to investigate.



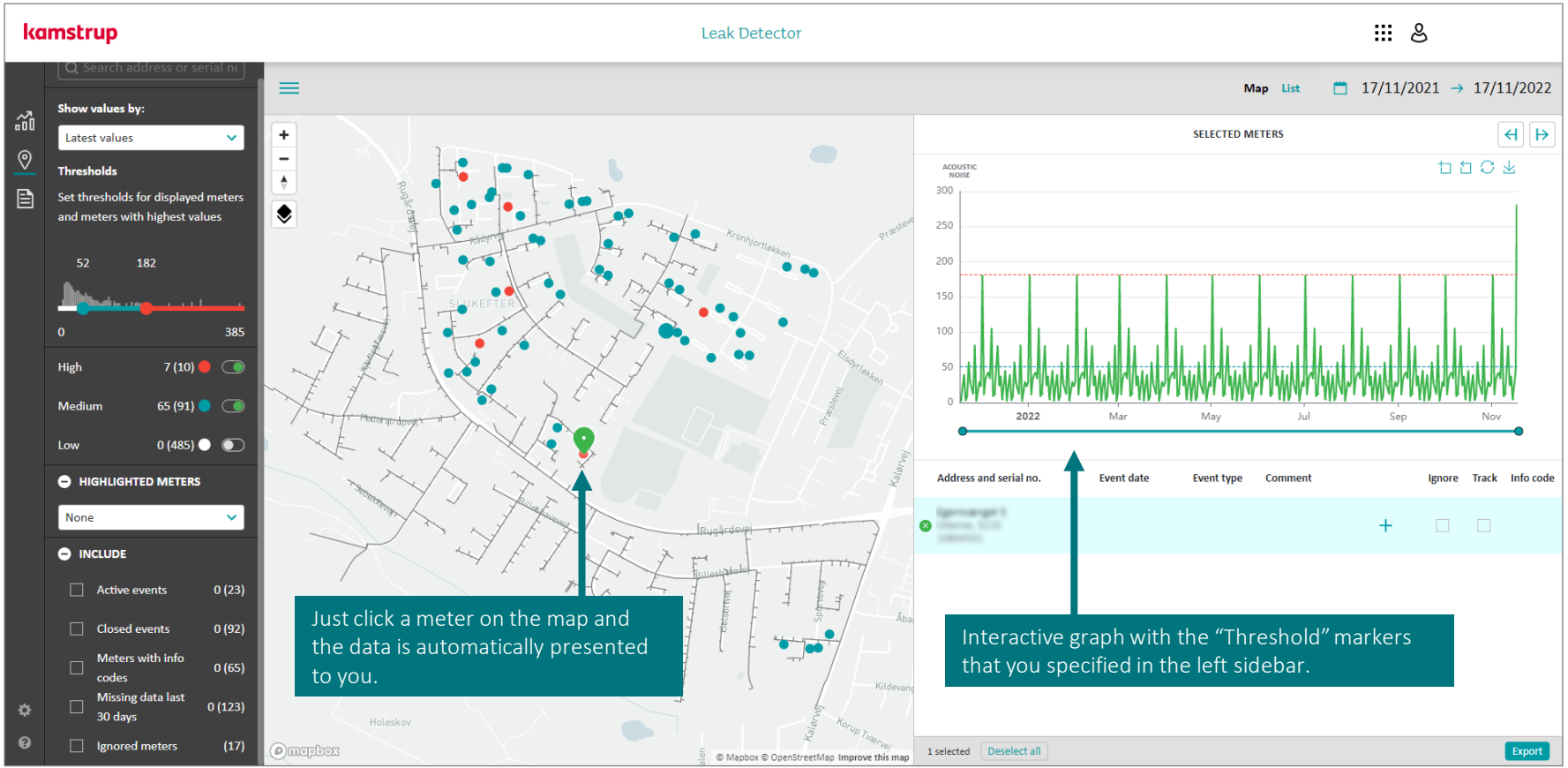
Lesson 02 – Using your map view

Apart from filtering on noise categories and highlights, you can also choose to include/exclude certain meters in/from your map view.



Lesson 02 – Using your map view

When you have applied your filters, you can drill down into the data, and figure out if there is something that you must investigate further.



Lesson 02 – Using your map view

A meter can have multiple comments attached to it, and special attention can be directed towards problematic meters.

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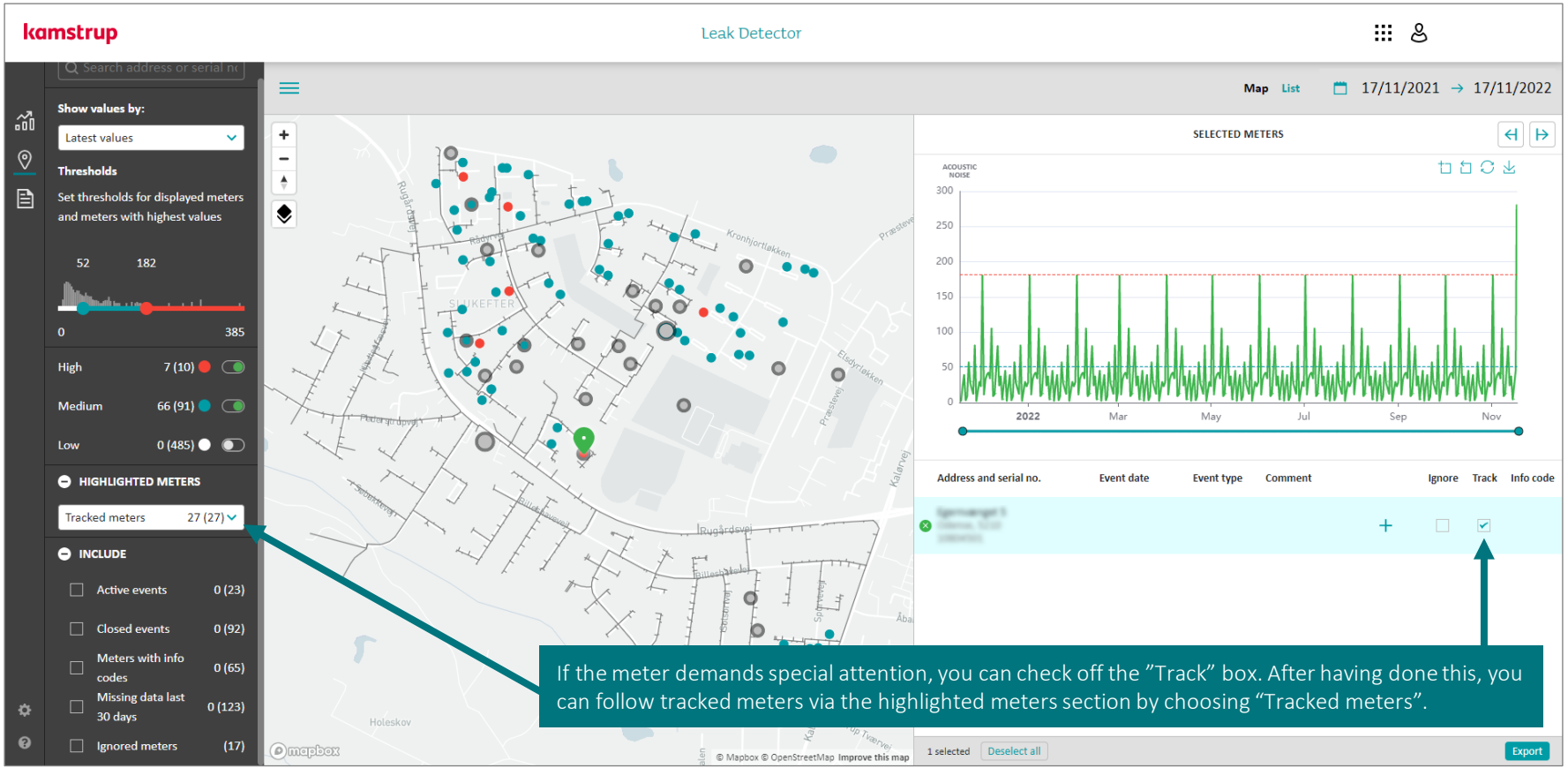
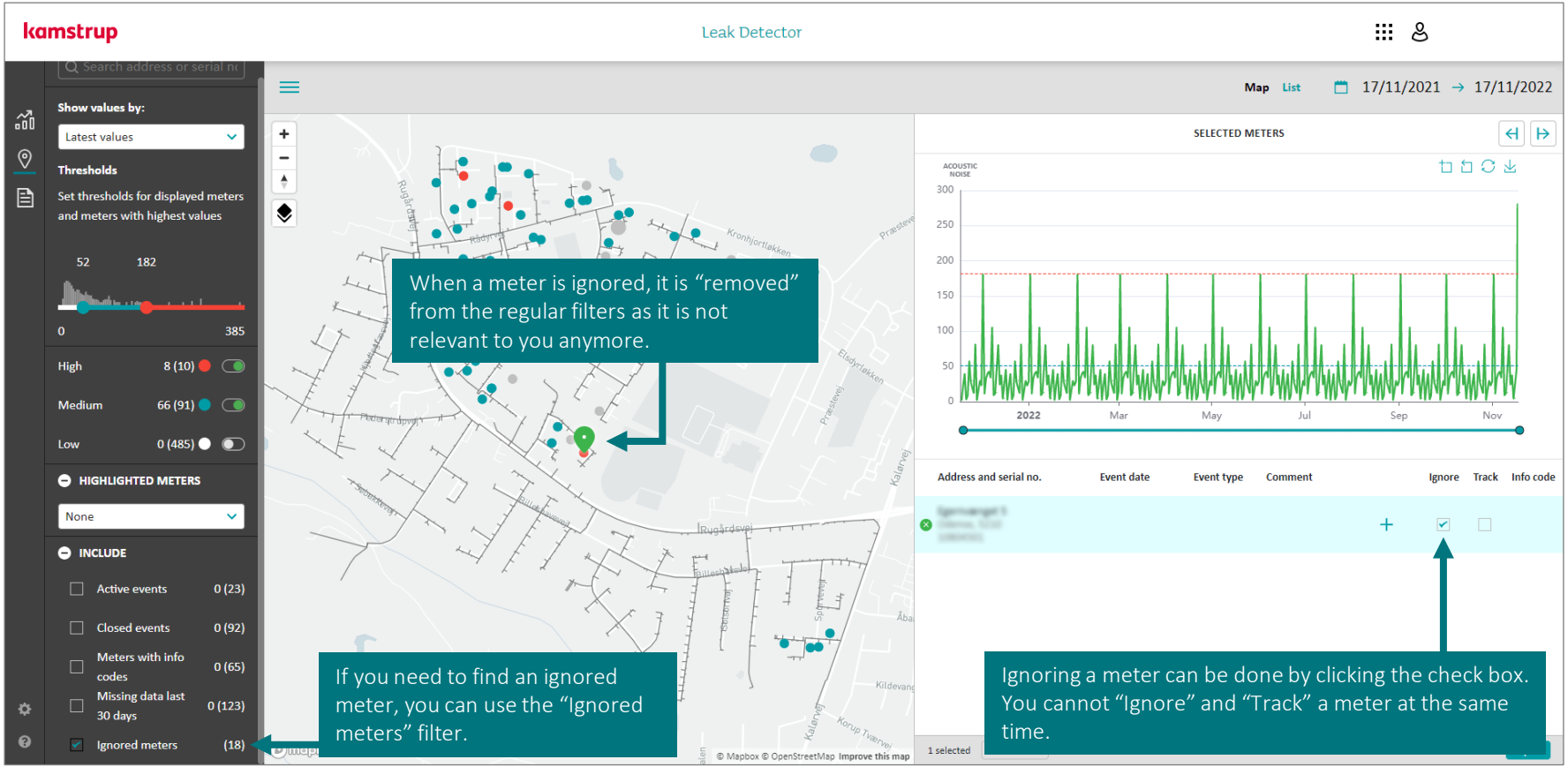


Lesson 02 – Using your map view

Apart from putting special attention to a meter, you can also choose to ignore a meter if you, for example, have validated that there is no problem with it, even though it shows a high noise level.

kamstrup

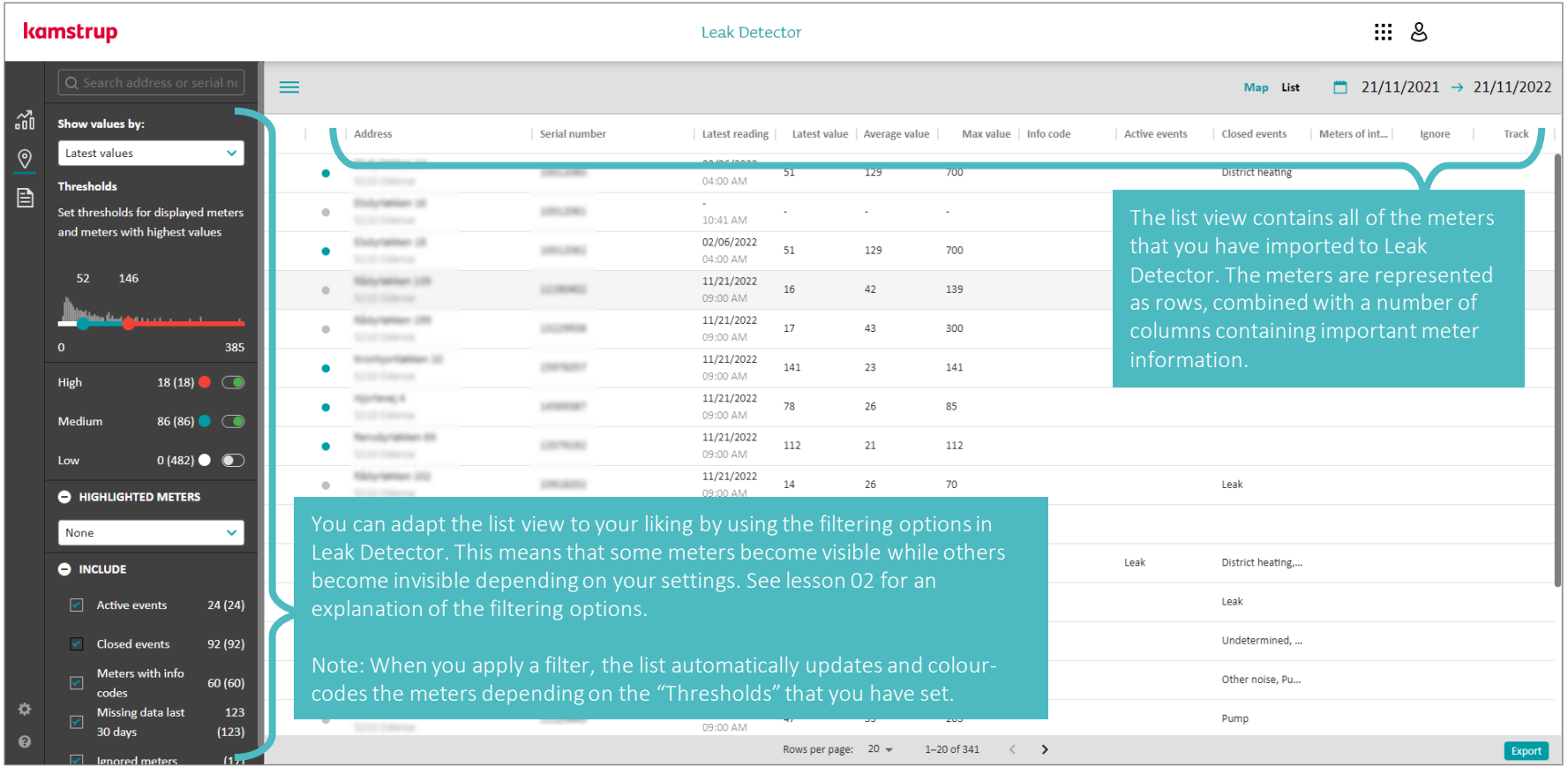


Lesson 03

Using your list view

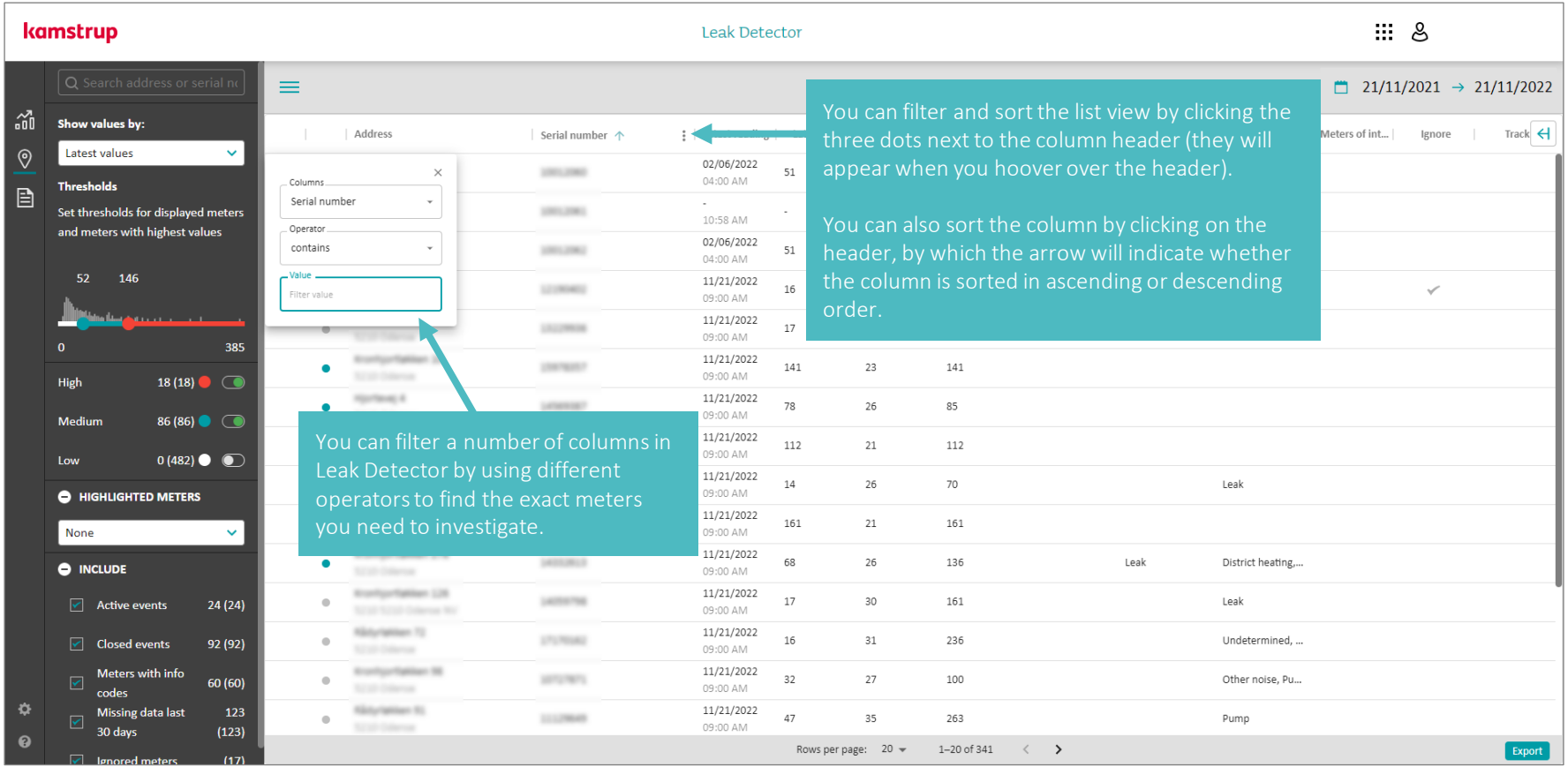
Lesson 03 – Using your list view

The list view in Leak Detector gives you a simple overview of your distribution network with meters represented as rows in the table. You can filter your view based on different filters.



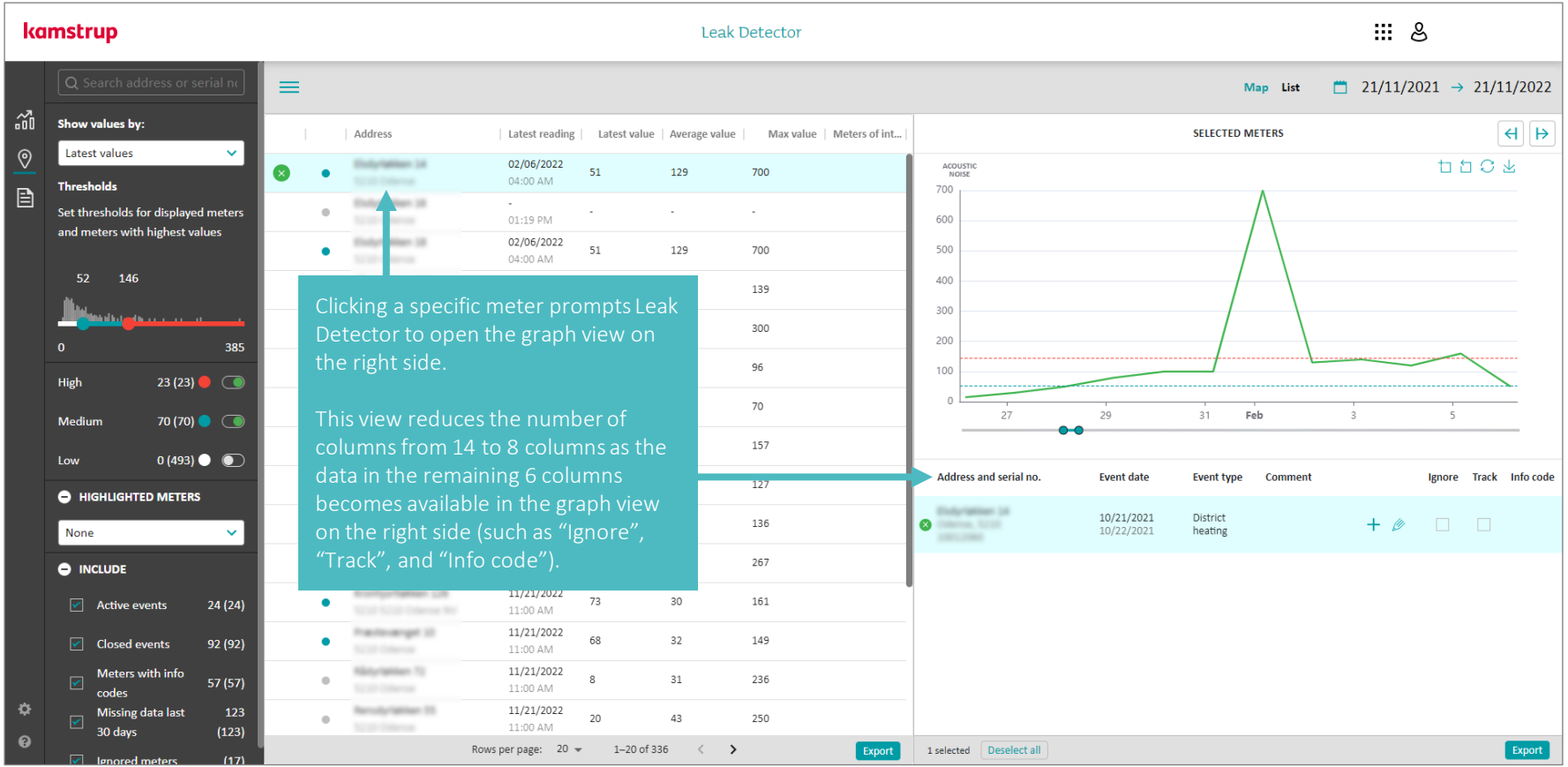
Lesson 03 – Using your list view

You can sort your list view in descending or ascending order, or you can filter the different columns to find the exact meters you are searching for.



Lesson 03 – Using your list view

From the list view, you can click a meter to get a detailed graph overview of that specific meter. This allows for deeper analysis of the noise development.

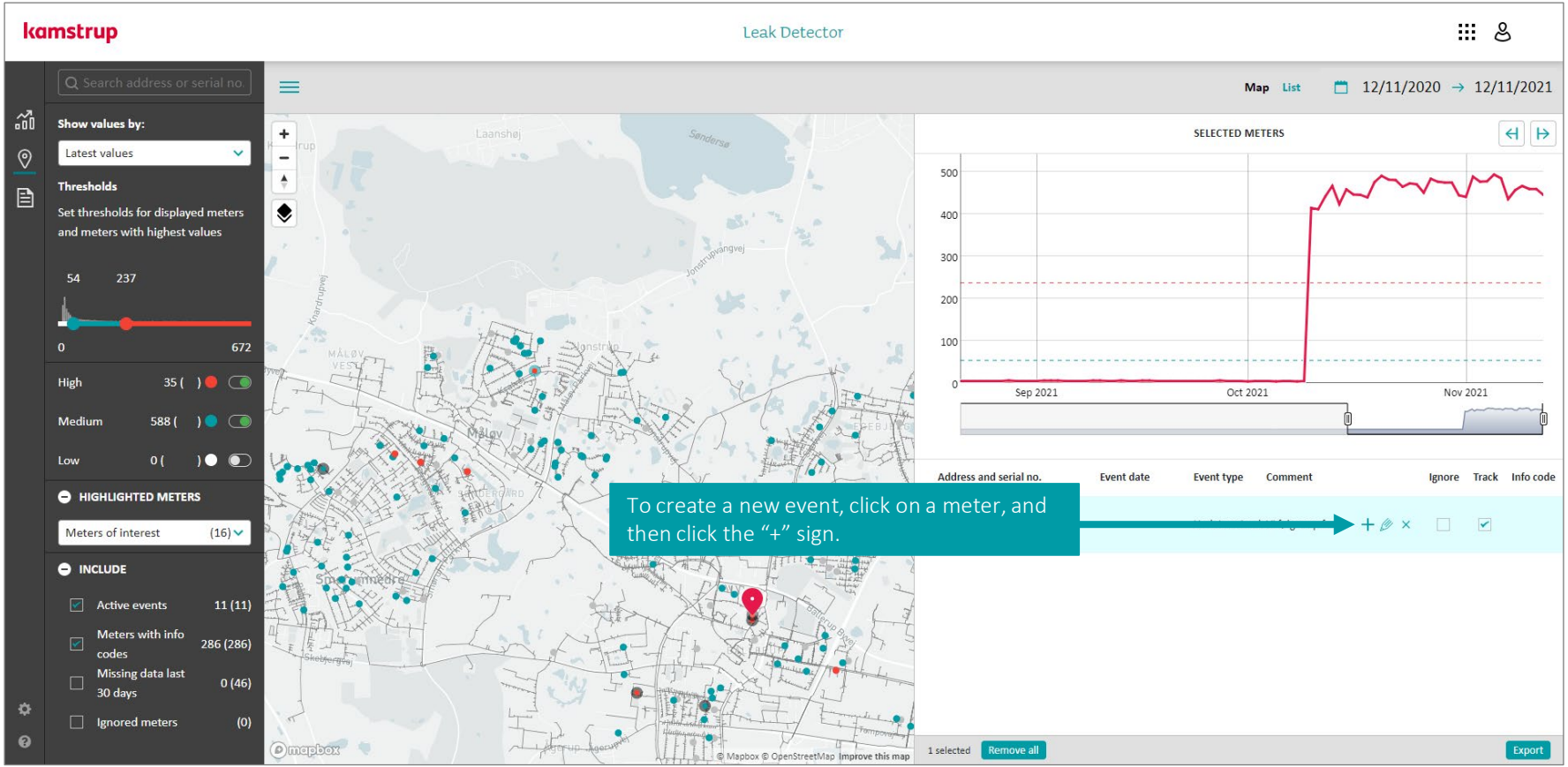


Lesson 04

Creating events for your meters

Lesson 04 – Creating events for your meters

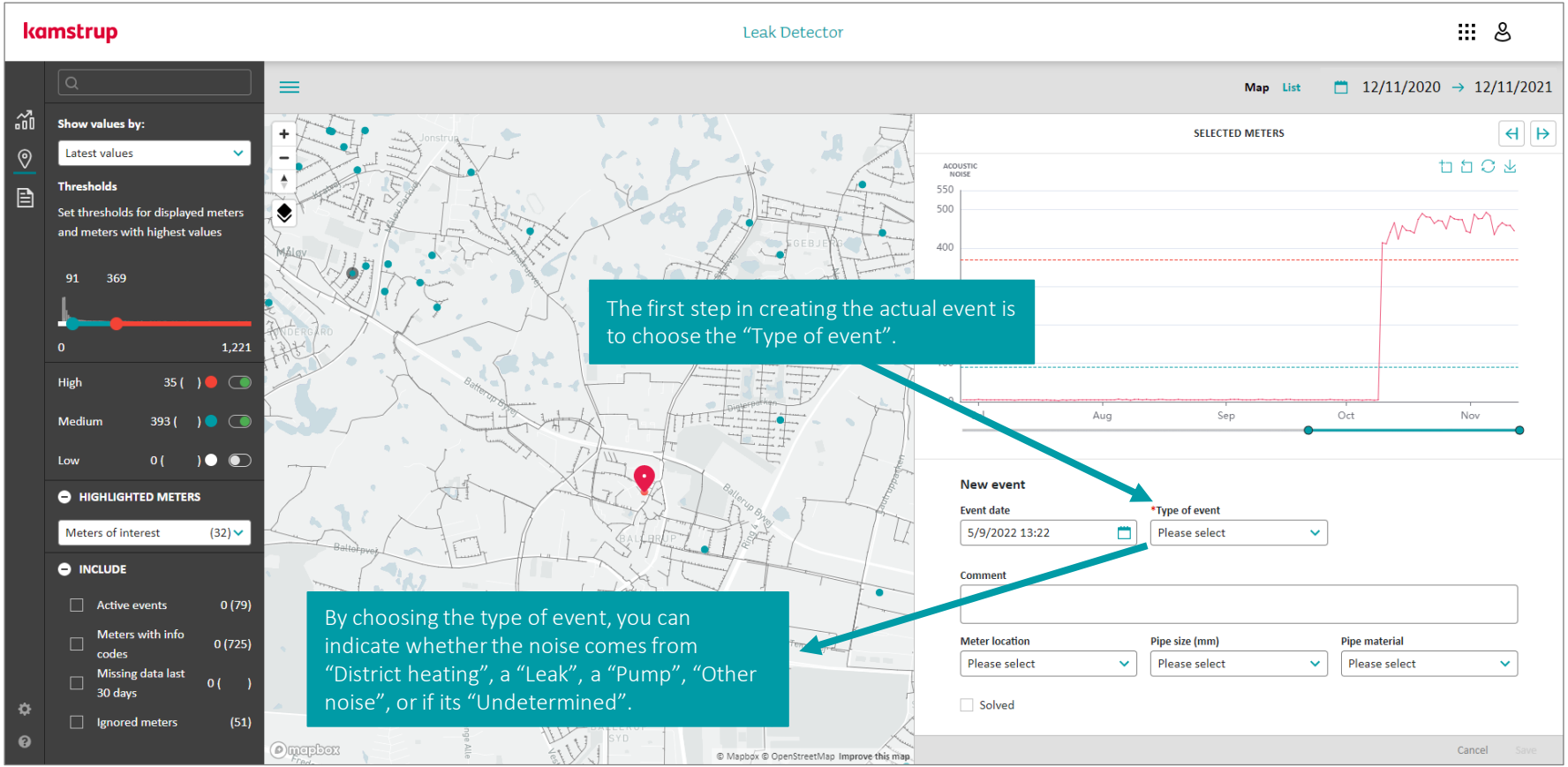
If you have visited a meter, and checked if there was a leakage or not, or if you have discovered something else, you can report your findings back to Leak Detector.



Lesson 04 – Creating events for your meters

The way to report back is through events. An event is for instance a leak, and when you create one, there is a possibility to also put in e.g., meter location, pipe size, etc.

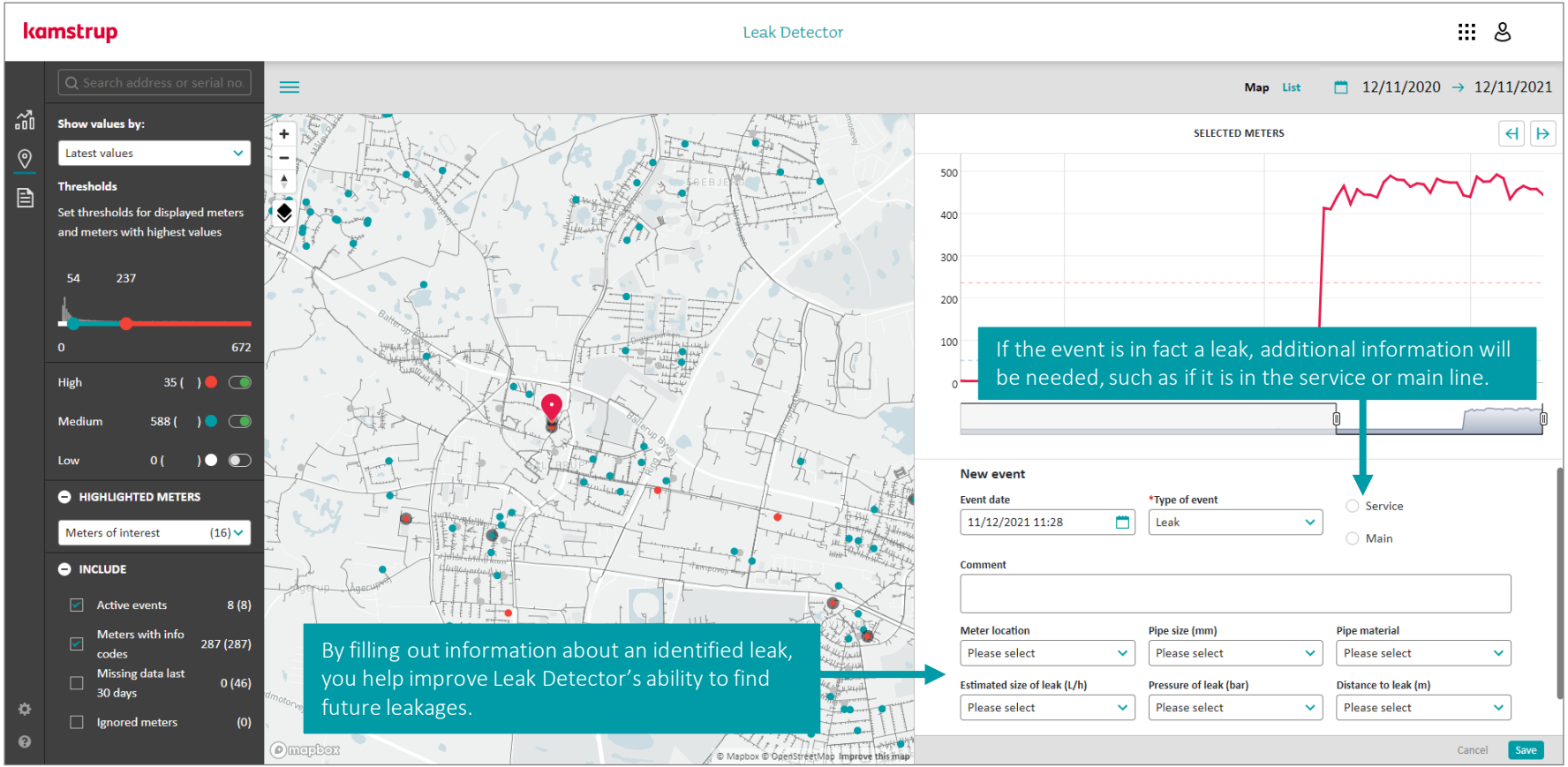
kamstrup



Lesson 04 – Creating events for your meters

Filling out information about investigated events creates additional value for you! By filling in relevant information, Leak Detector will, over time, become better than ever to find and suggest actual leaks.

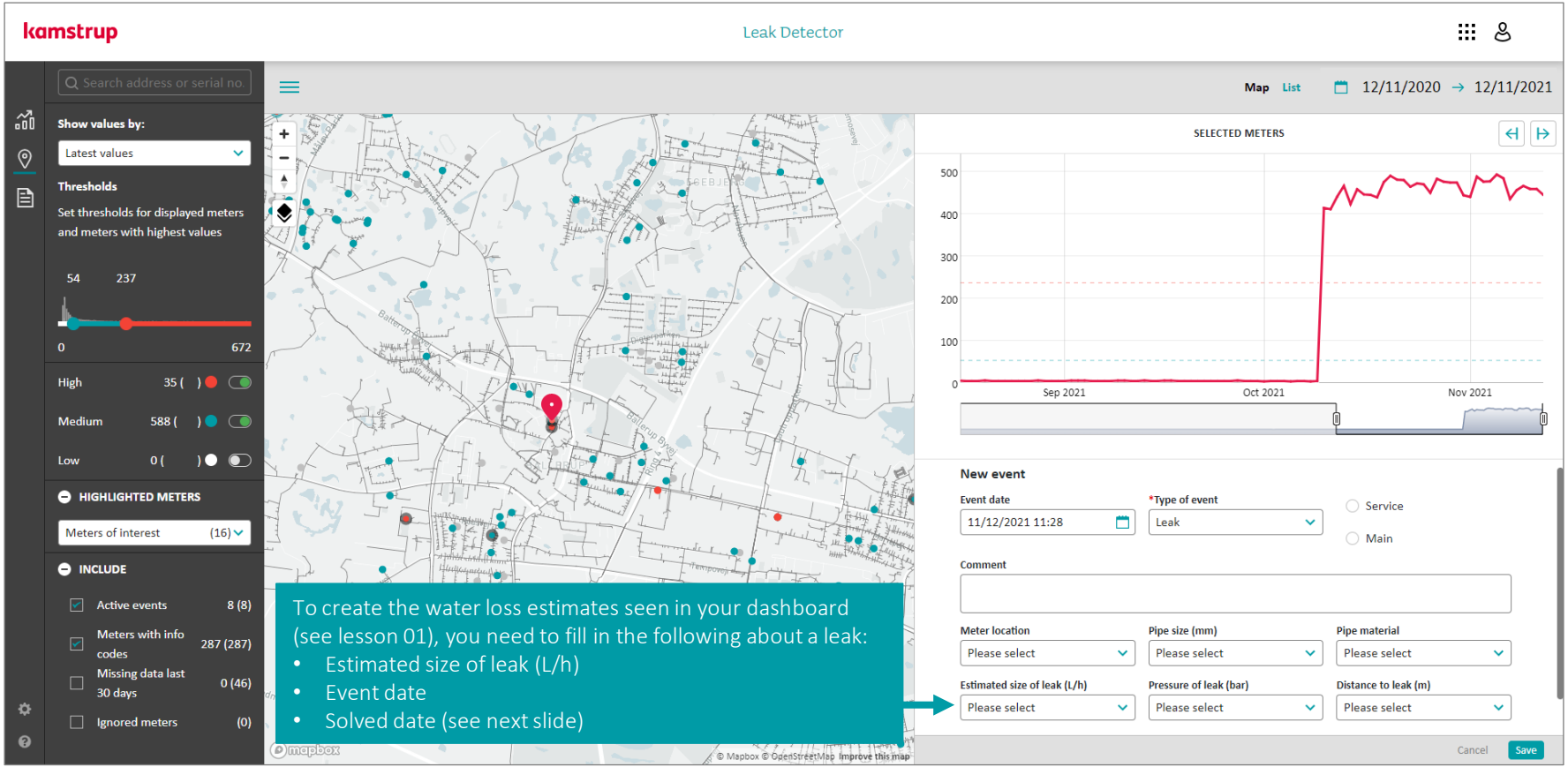
kamstrup



Lesson 04 – Creating events for your meters

The “This year to date” section in Leak Detectors dashboard (see lesson 01) depends on the events that you have registered. If you have not registered any events, no water loss calculations are being done.

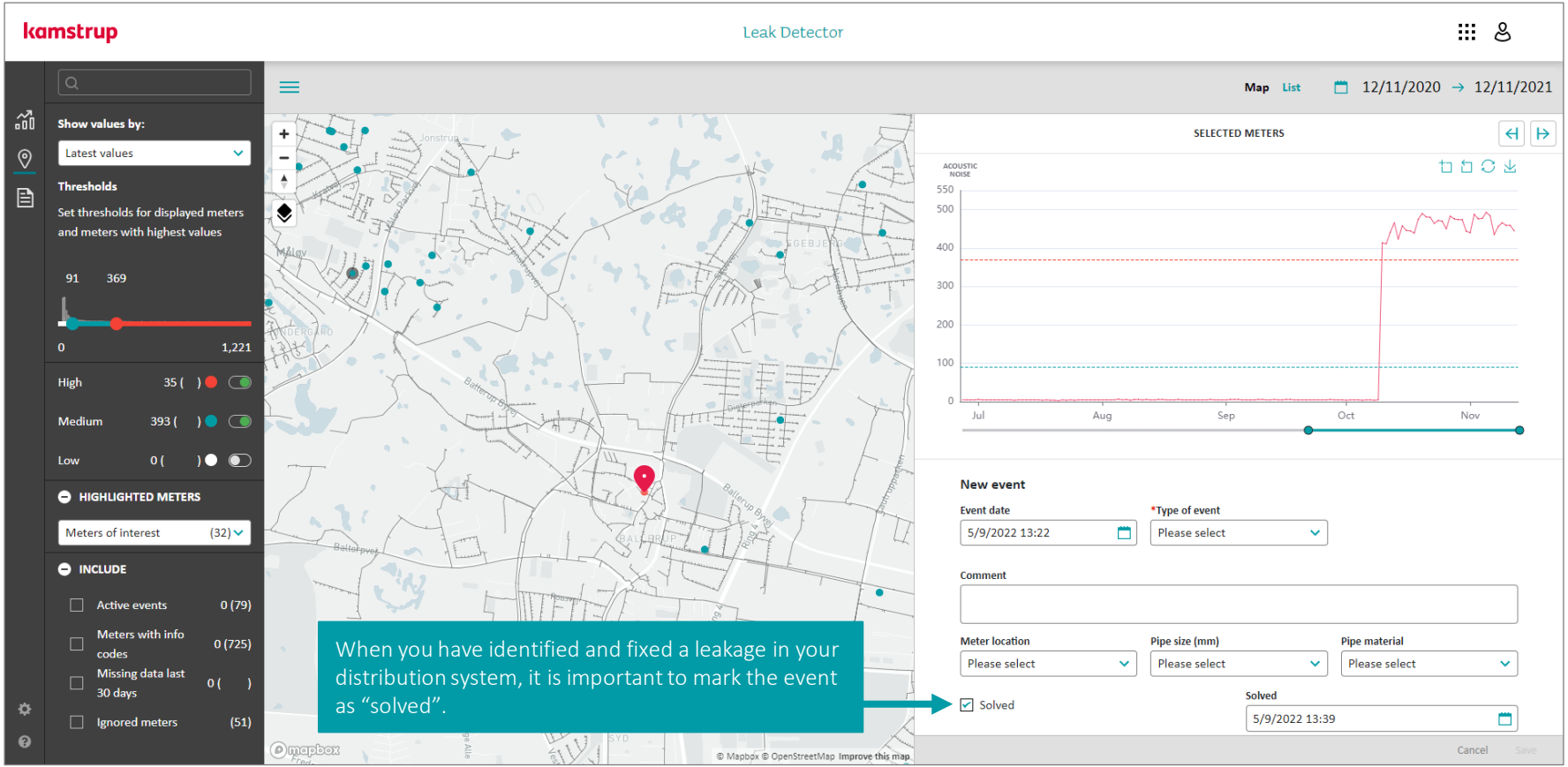
kamstrup

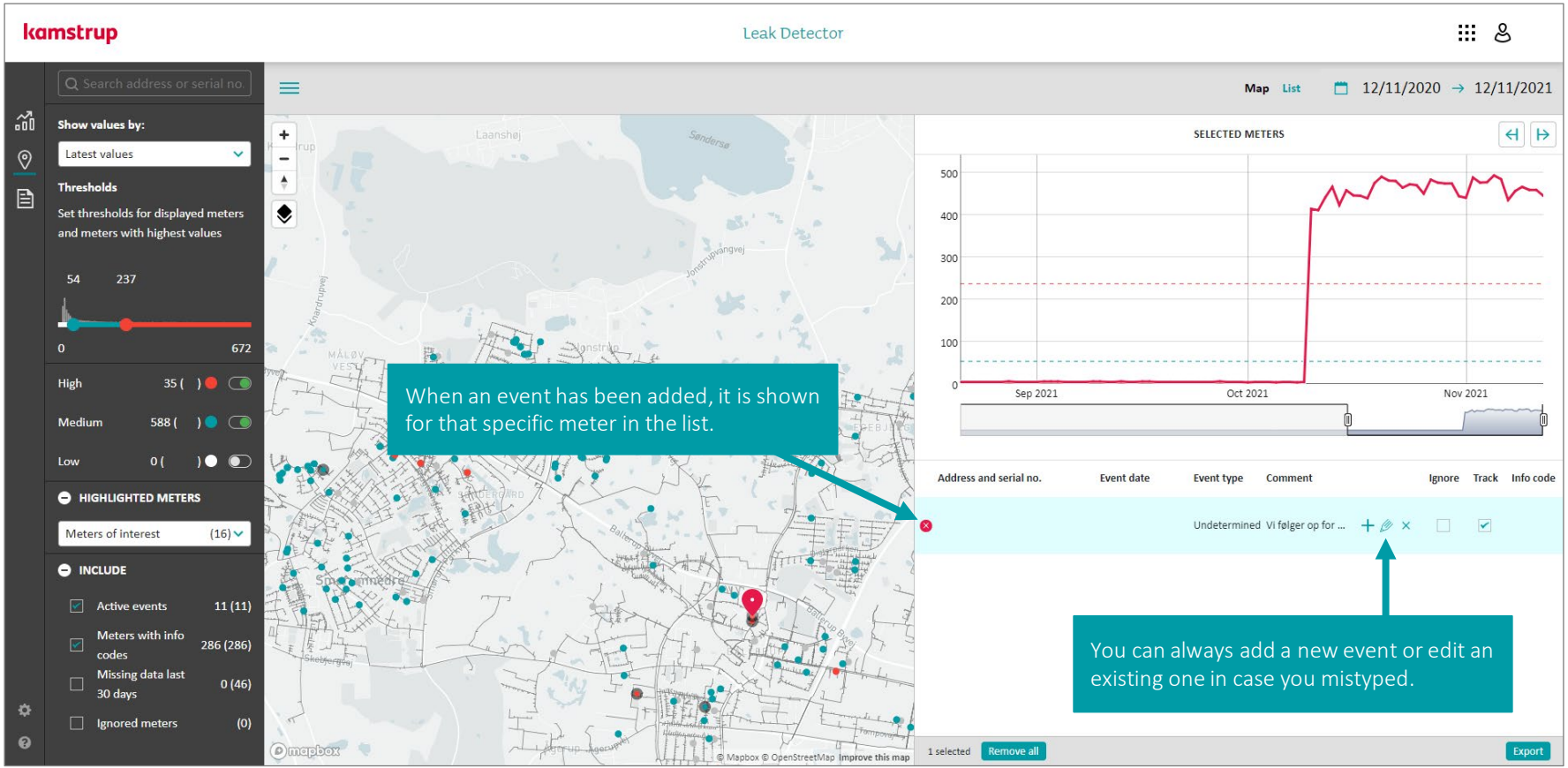


Lesson 04 – Creating events for your meters

Closing, or solving, an event, helps you gain an overview of your distribution network, and it enables Leak Detector to calculate an estimated water loss.

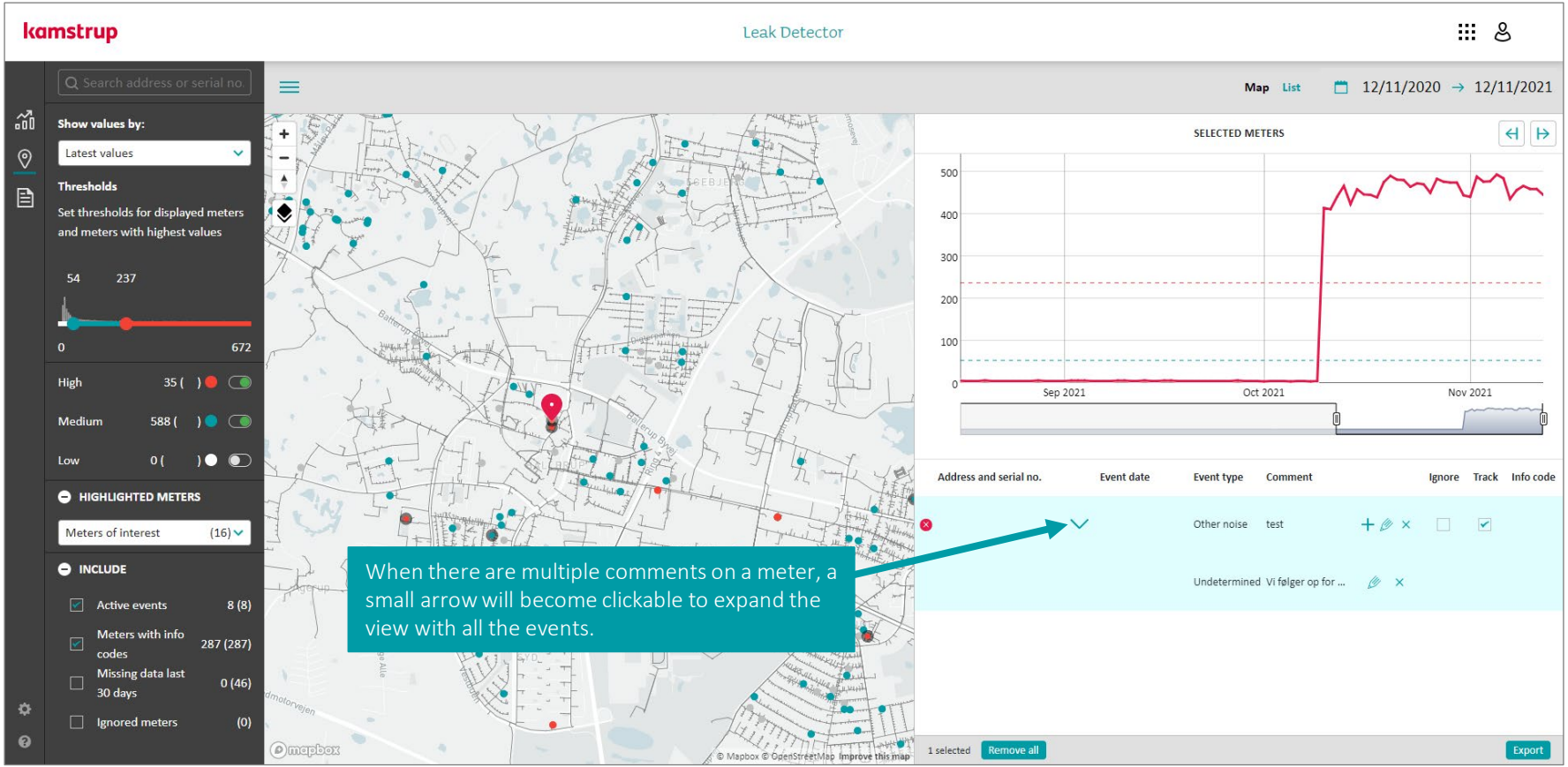
kamstrup




kamstrup
Leak Detector
Search address or serial no.
Show values by:
Latest values
Thresholds
Set thresholds for displayed meters and meters with highest values
54
237
0
672
High
35 ( )
Medium
588 ( )
Low
0 ( )
HIGHLIGHTED METERS
Meters of interest
(16)
INCLUDE
Active events
11 (11)
Meters with info codes
286 (286)
Missing data last 30 days
0 (46)
Ignored meters
(0)
Map
List
12/11/2020
12/11/2021
SELECTED METERS
500
400
300
200
100
0
Sep 2021
Oct 2021
Nov 2021
When an event has been added, it is shown for that specific meter in the list.
Address and serial no.
Event date
Event type
Comment
Ignore
Track
Info code
Undetermined
Vi følger op for ...
You can always add a new event or edit an existing one in case you mistyped.
1 selected
Remove all
Export
mapbox
© Mapbox © OpenStreetMap Improve this map

Lesson 04 – Creating events for your meters

A meter can have multiple comments attached to it, and special attention can be directed towards problematic meters.

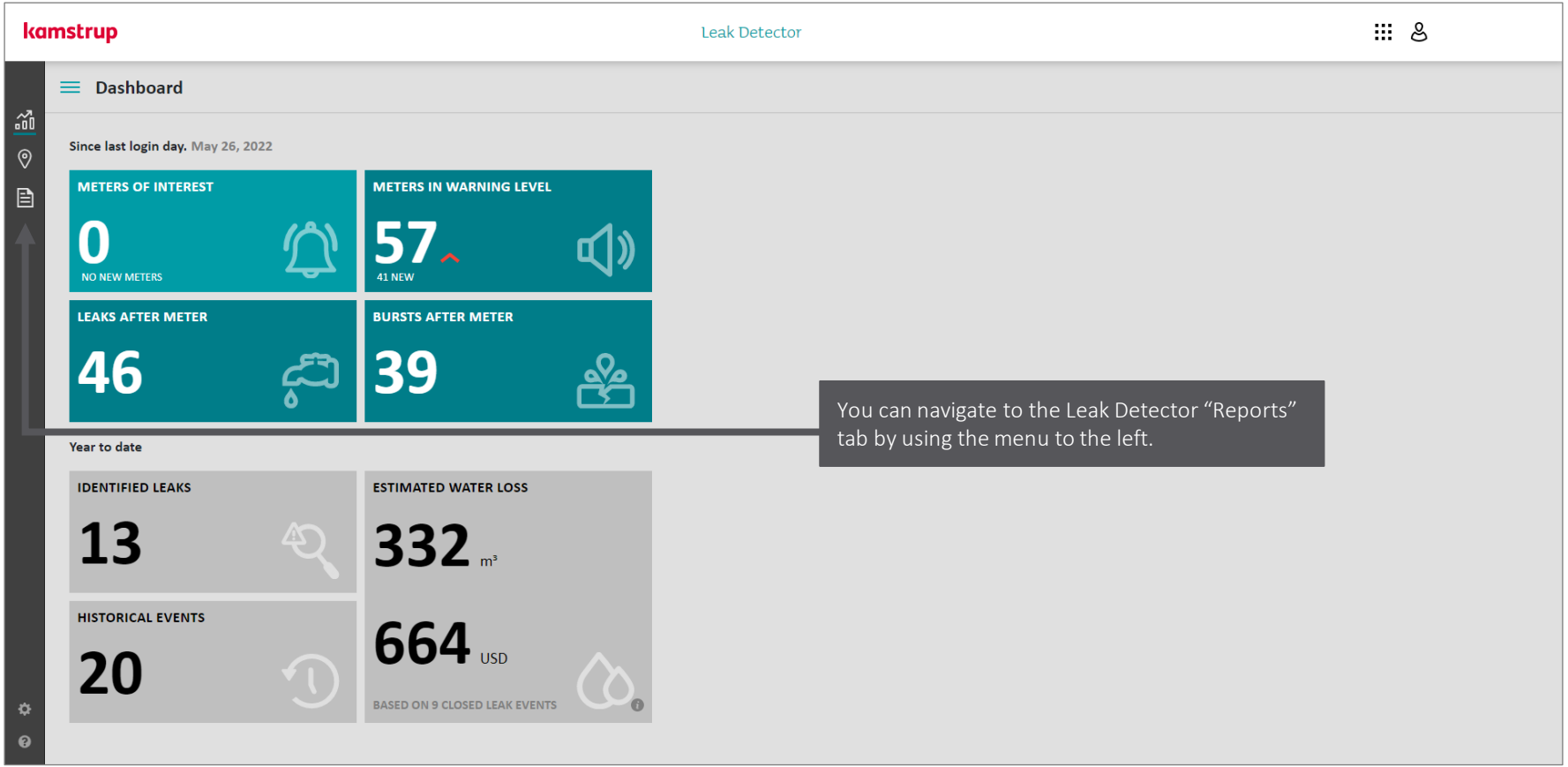


Lesson 05

Extracting valuable reports

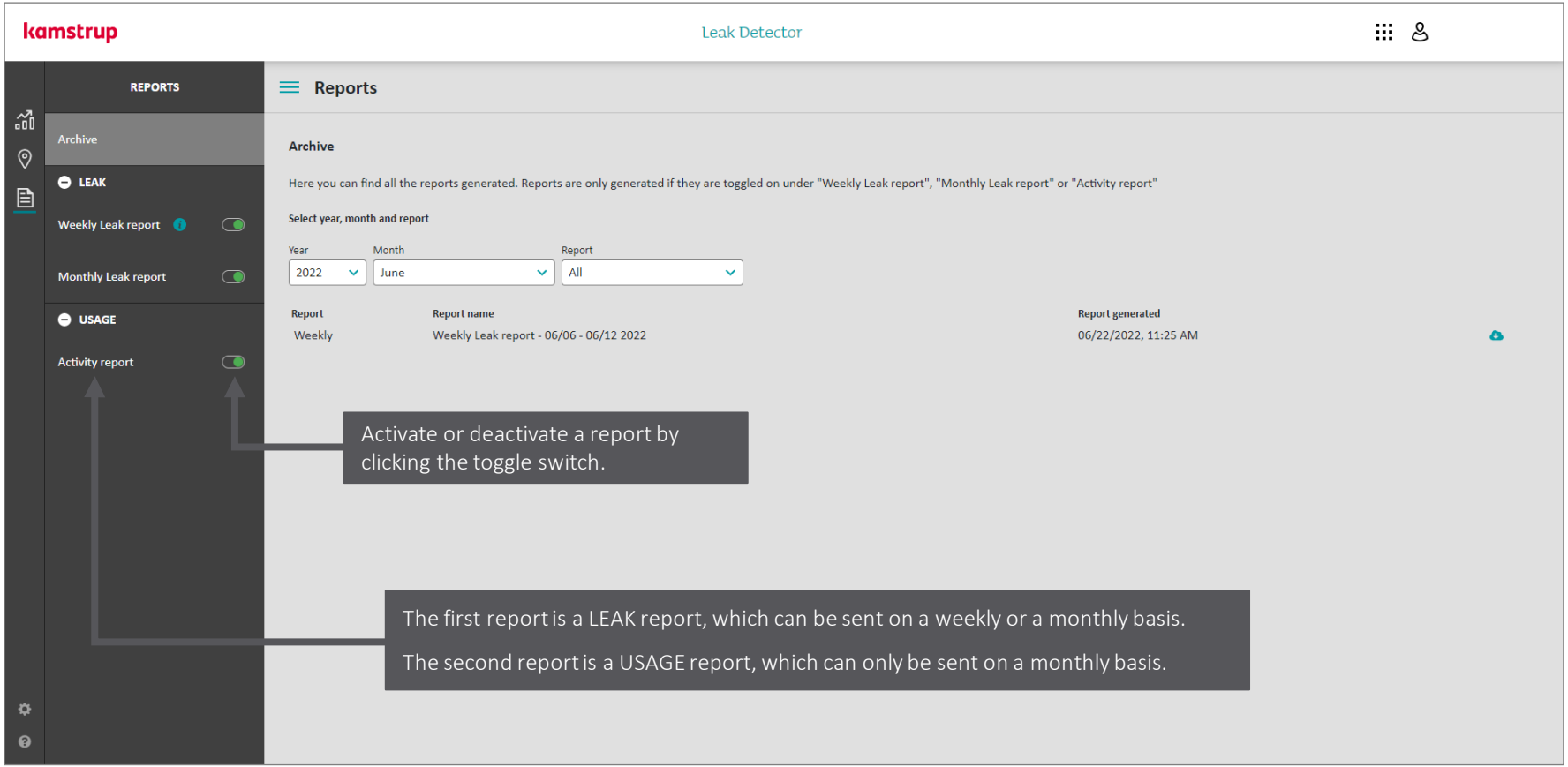
Lesson 05 – Extracting valuable reports

You can extract valuable reports (in .pdf format) from Leak Detector or have them send directly to whichever mail you would prefer.



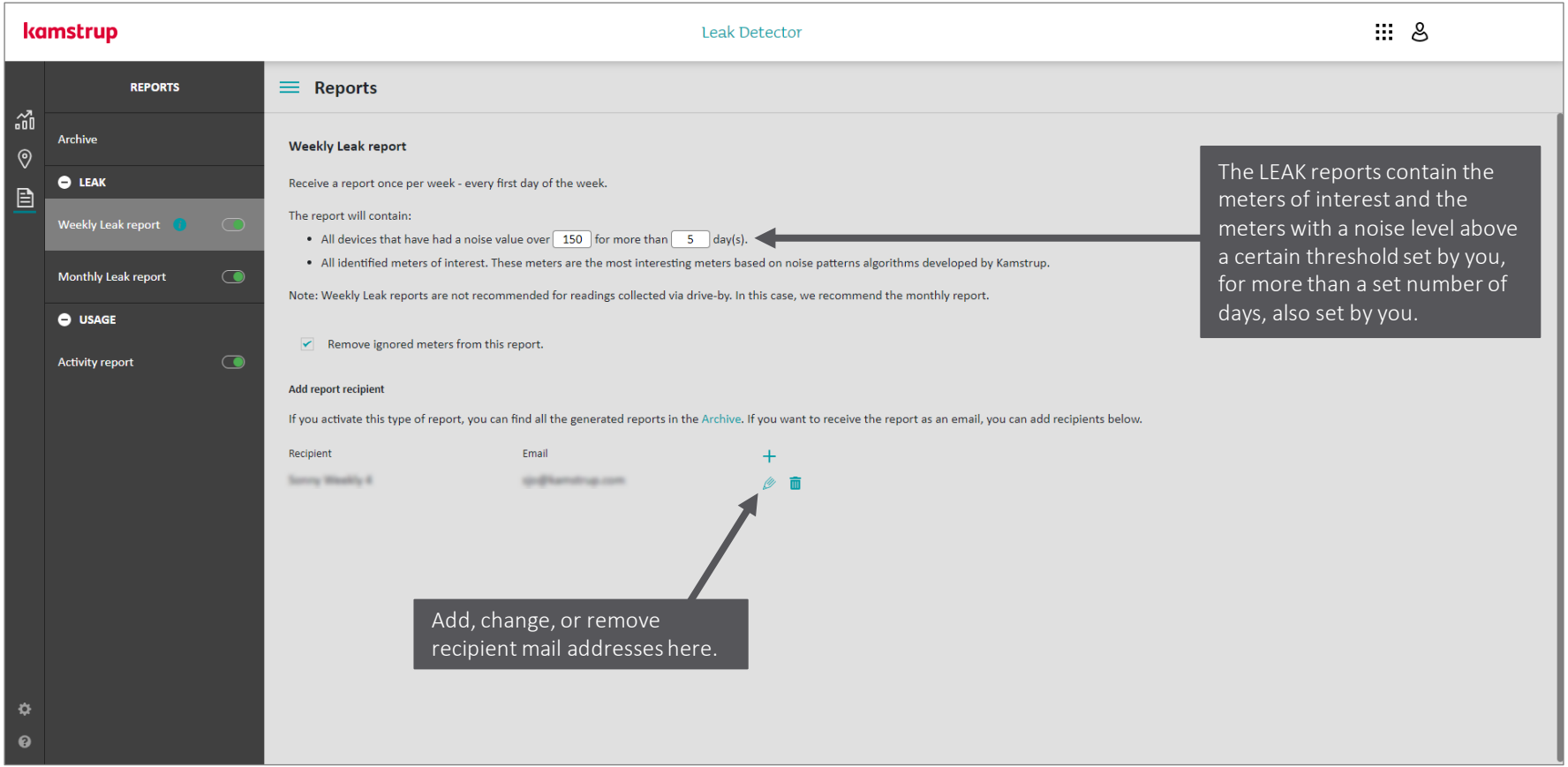
Lesson 05 – Extracting valuable reports

Two different types of reports can currently be generated by Leak Detector – a LEAK and a USAGE report.

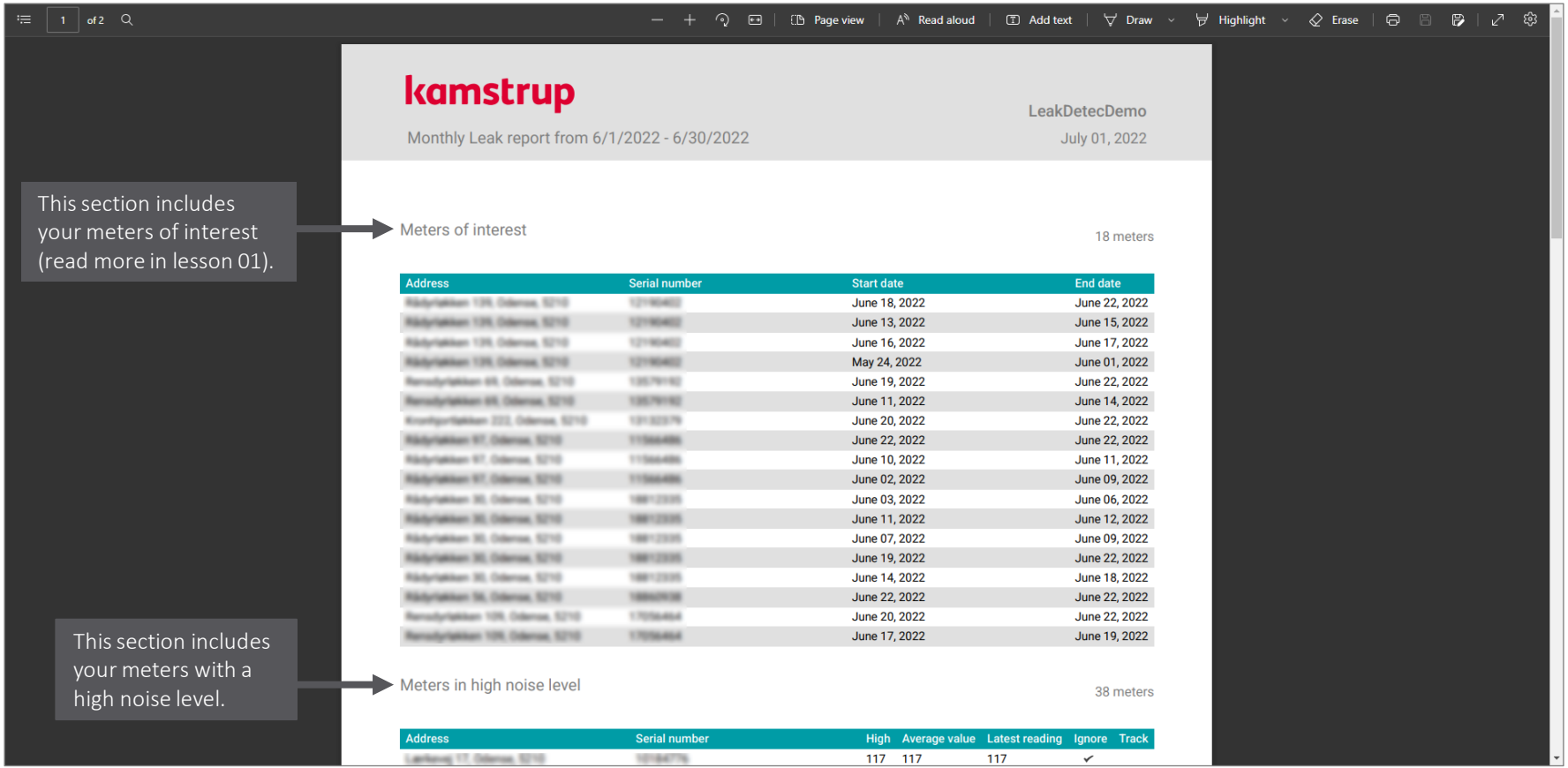


Lesson 05 – Extracting valuable reports

The LEAK reports lets you get an overview of potentially problematic meters in your network based on both meters of interest and on a high noise level threshold set by you.

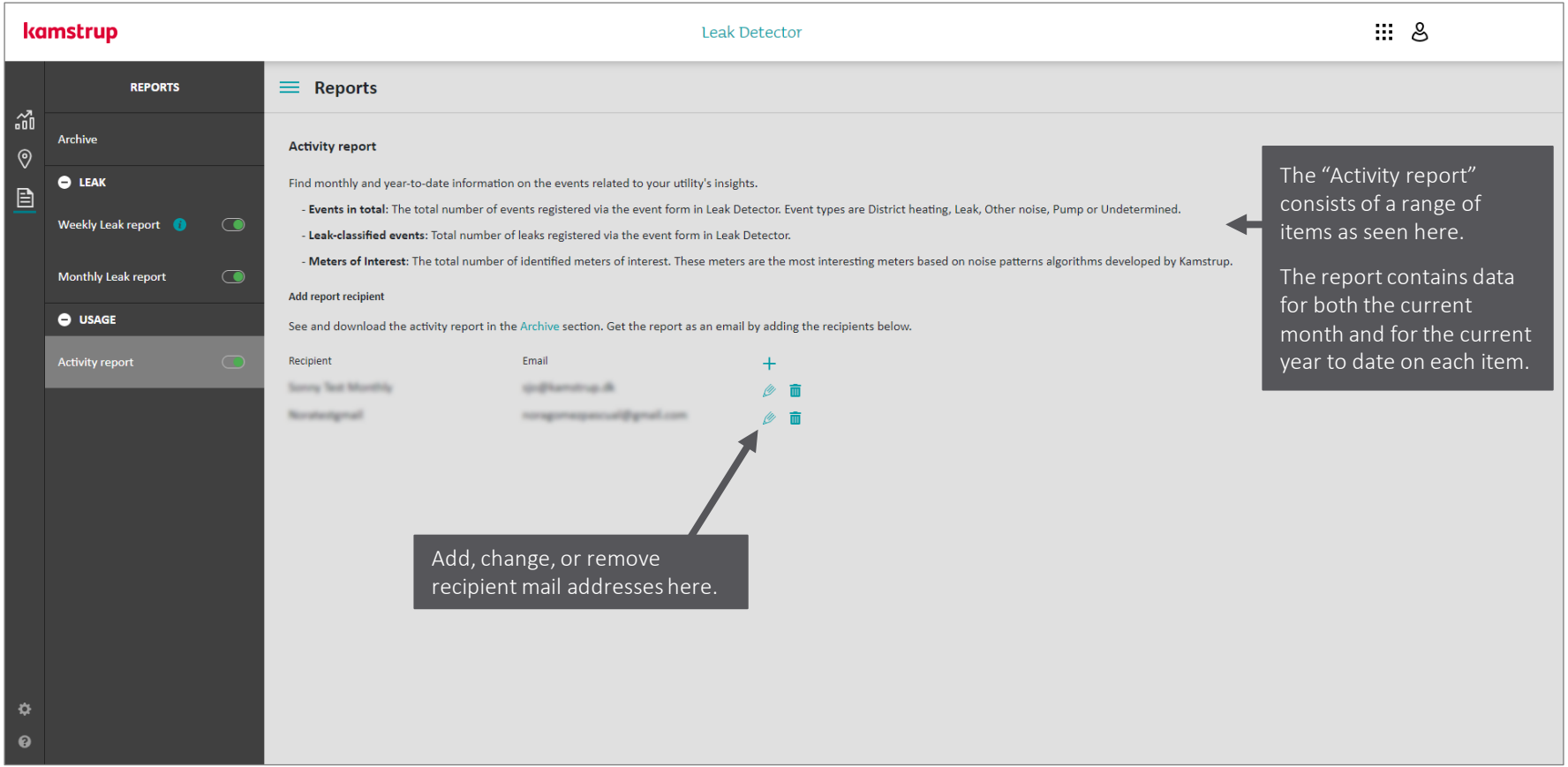


The LEAK report comes in a weekly and monthly version and contains both meters of interest and meters in high noise level.



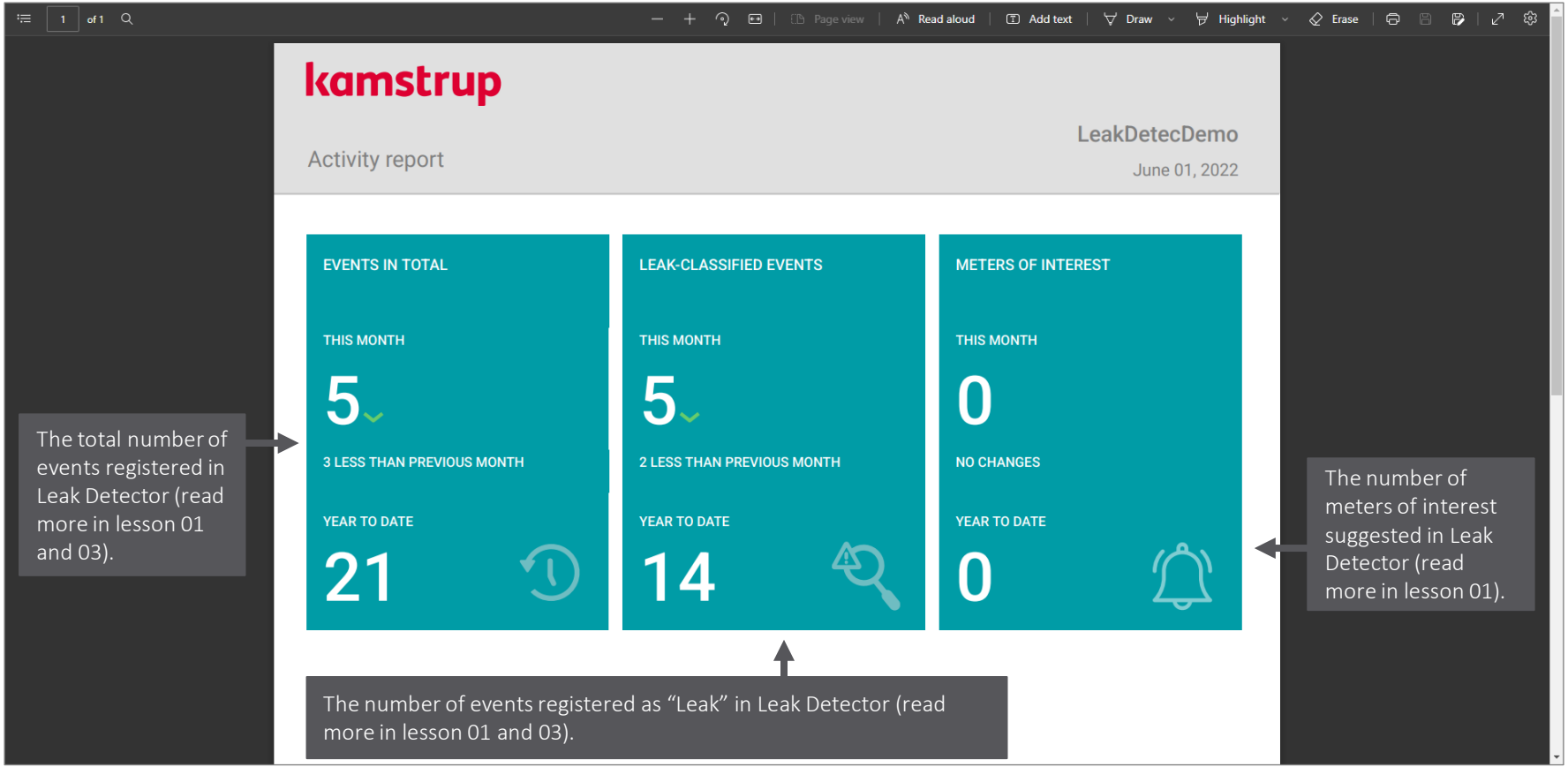
Lesson 05 – Extracting valuable reports

The USAGE report lets you get an overview of potentially problematic meters in your network based on events and on “meters of interest”.



Lesson 05 – Extracting valuable reports

The “Activity report” (USAGE) contains data on leak classified events, meters of interest, and on the total number of registered events, both on a monthly and year-to-date basis.



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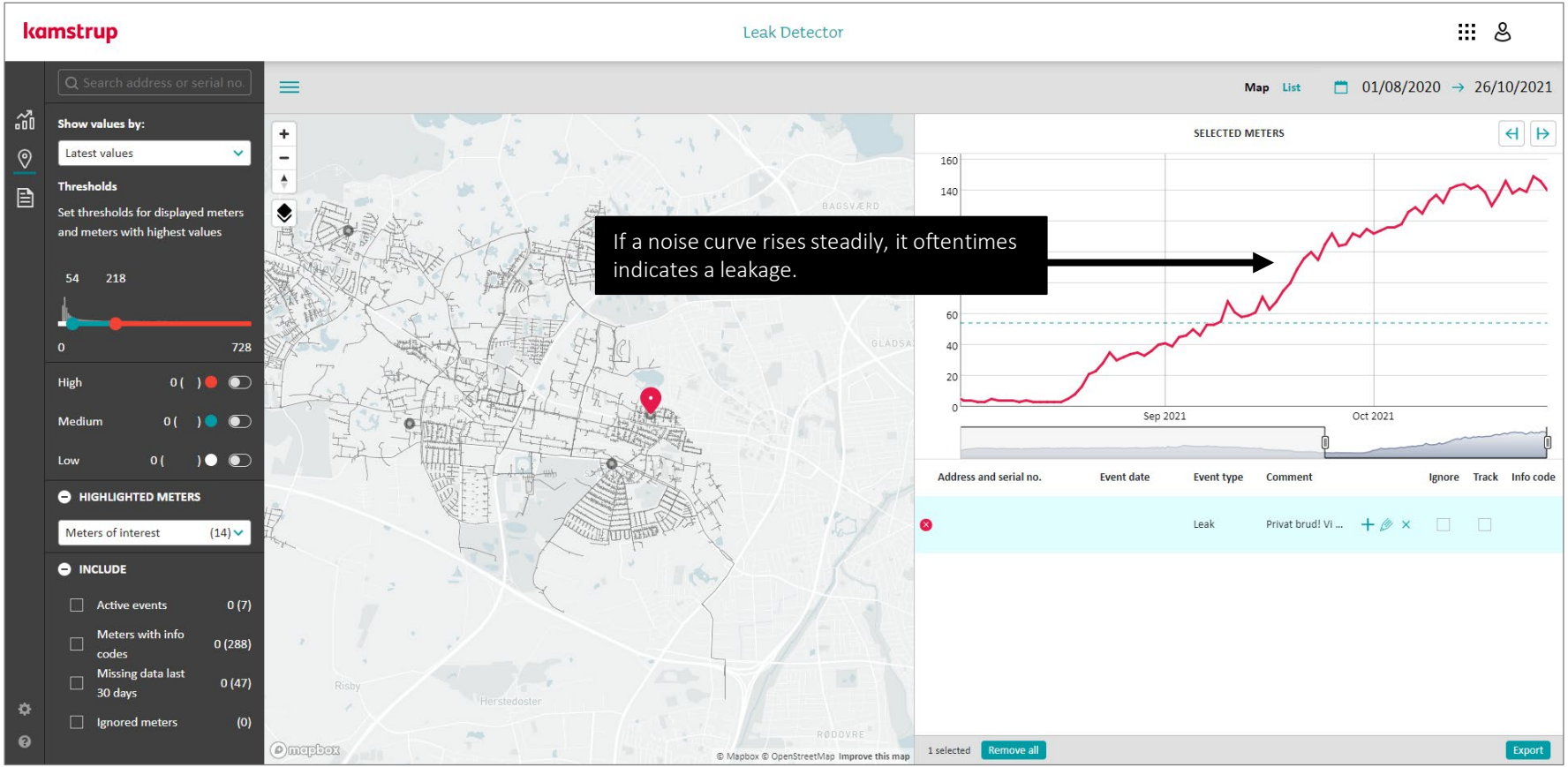
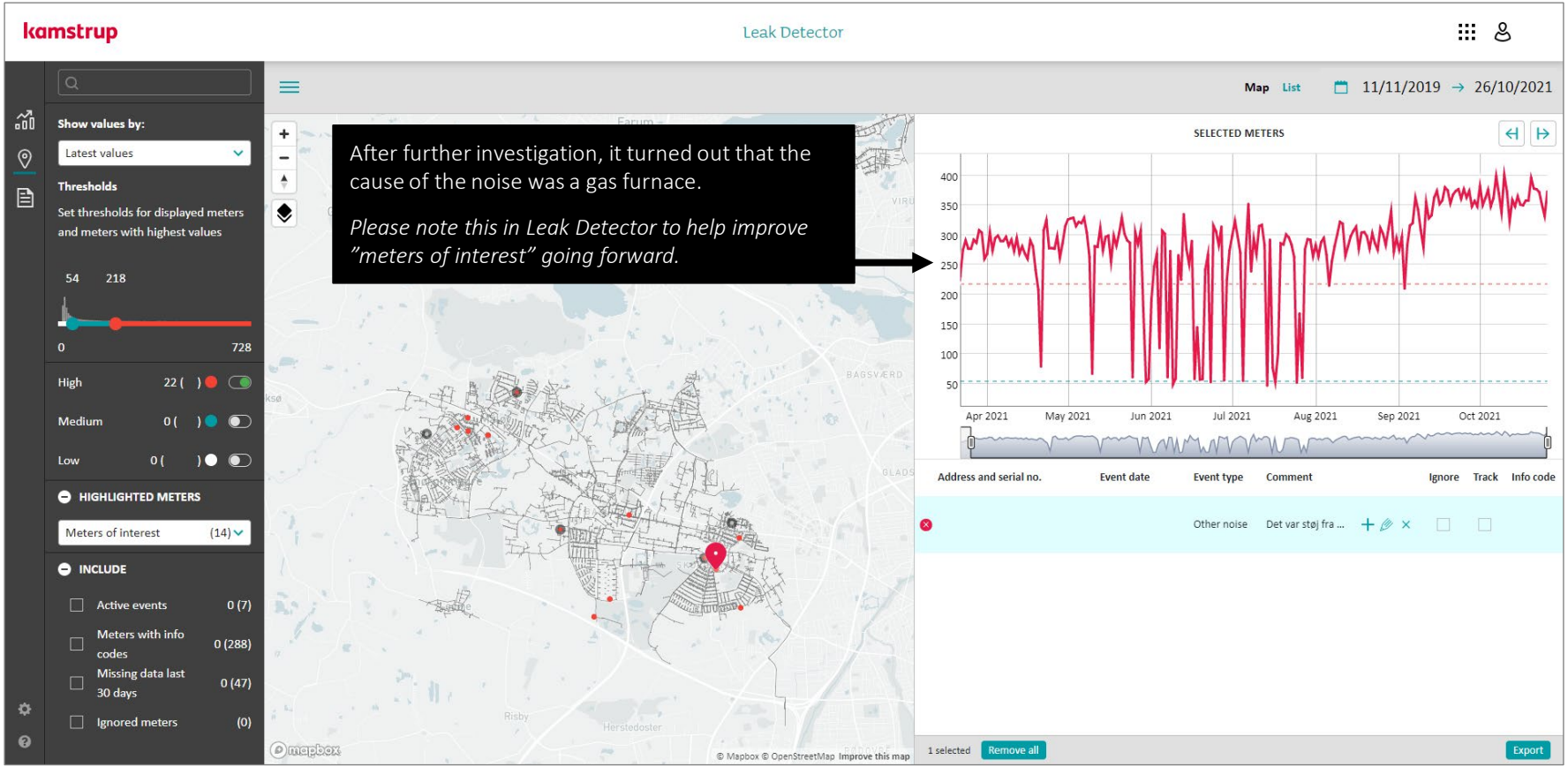
Lesson 06

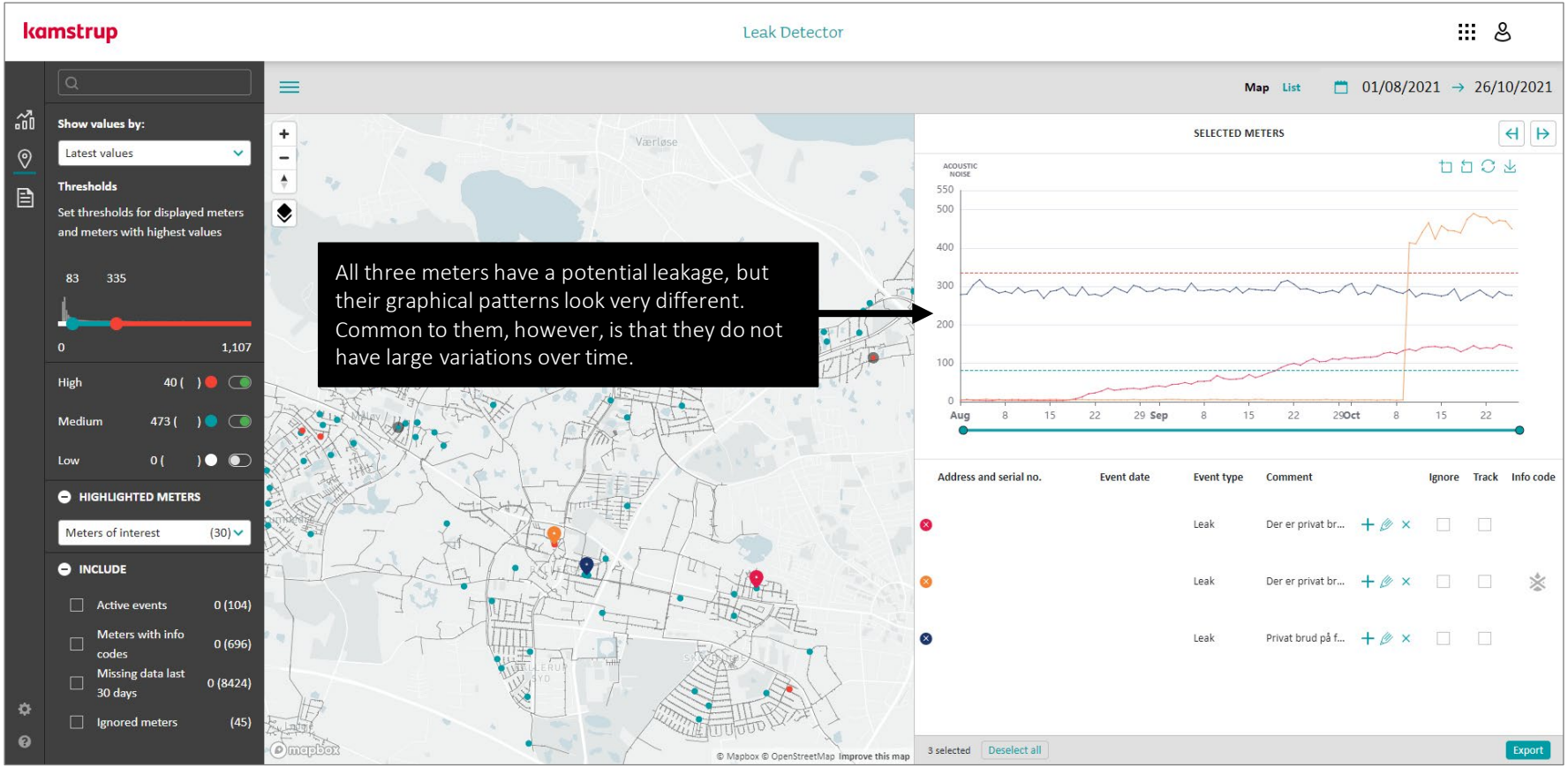
Examples of meter discoveries


kamstrup
Leak Detector
Search address or serial no.
Show values by:
Latest values
Thresholds
Set thresholds for displayed meters and meters with highest values
54
218
0
728
High
Medium
Low
HIGHLIGHTED METERS
Meters of interest (14)
INCLUDE
Active events 0 (7)
Meters with info codes 0 (288)
Missing data last 30 days 0 (47)
Ignored meters (0)
Map
List
01/08/2020 → 26/10/2021
If a noise curve rises steadily, it oftentimes indicates a leakage.
SELECTED METERS
160
140
60
40
20
0
Sep 2021
Oct 2021
Address and serial no.
Event date
Event type
Comment
Ignore
Track
Info code
Leak
Privat brud! Vi ...
1 selected
Remove all
Export
BAGSVÆRD
GLADSA
Risby
Herstedoster
RØDOVRE
© Mapbox © OpenStreetMap Improve this map

kamstrup


kamstrup
Leak Detector
Show values by:
Latest values
Thresholds
Set thresholds for displayed meters and meters with highest values
54
218
0
728
High
Medium
Low
HIGHLIGHTED METERS
Meters of interest
(14)
INCLUDE
Active events
0 (7)
Meters with info codes
0 (288)
Missing data last 30 days
0 (47)
Ignored meters
(0)
Map
List
11/11/2019
26/10/2021
After further investigation, it turned out that the cause of the noise was a gas furnace.
Please note this in Leak Detector to help improve "meters of interest" going forward.
SELECTED METERS
400
350
300
250
200
150
100
50
Apr 2021
May 2021
Jun 2021
Jul 2021
Aug 2021
Sep 2021
Oct 2021
Address and serial no.
Event date
Event type
Comment
Ignore
Track
Info code
Other noise
Det var støj fra ...
1 selected
Remove all
Export
© Mapbox © OpenStreetMap Improve this map

kamstrup


kamstrup
Leak Detector
Show values by:
Latest values
Thresholds
Set thresholds for displayed meters and meters with highest values
83
335
0
1,107
High 40 ( )
Medium 473 ( )
Low 0 ( )
HIGHLIGHTED METERS
Meters of interest (30)
INCLUDE
Active events 0 (104)
Meters with info codes 0 (696)
Missing data last 30 days 0 (8424)
Ignored meters (45)
Map List
01/08/2021 → 26/10/2021
All three meters have a potential leakage, but their graphical patterns look very different. Common to them, however, is that they do not have large variations over time.
SELECTED METERS
ACOUSTIC NOISE
550
500
400
300
200
100
0
Aug 8 15 22 29 Sep 8 15 22 29Oct 8 15 22
Address and serial no.
Event date
Event type
Comment
Ignore
Track
Info code
Leak
Der er privat br...
Leak
Der er privat br...
Leak
Privat brud på f...
3 selected
Deselect all
Export
© Mapbox © OpenStreetMap Improve this map

Do you need to know anything else? We stand ready with the following:

- Contact our support via My Kamstrup.
- Reach out to us to get a copy of our ”Guideline for Leak Verifications”.
- See our portfolio of service offerings related to Leak Detector here: https://www.kamstrup.com/en-en/water-solutions/services/ald-service-offerings