

 **TECNIPLAST**

Release Note 3.3.0





# RELEASE NOTE 3.3.0

## 1 RELEASE FEATURES

### FEATURES MARKETING

In this DVC® Analytics release 3.3.0, we added new significant features, some enhancements, and simultaneously fixed some open bugs.

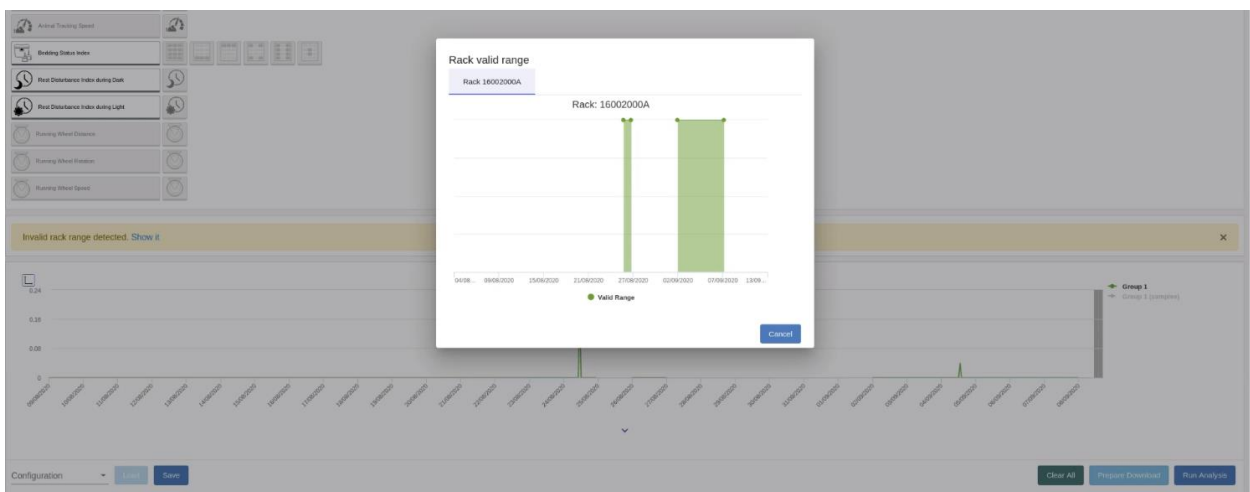
A more detailed list of the new features is reported below:

#### 1.1 FEATURE #1 – PAY PER RACK FUNCTIONALITY

The DVC® Analytics is a cloud platform receiving data only from enabled DVC® Racks in the field. To improve the navigation of the User and provide a better understanding of the availability of the data, extra graphical messages have been added in case the cage/animal data are coming from not-enabled DVC® Racks.

More in details, if during your specific cage(s) analysis, you select a cage(s) that was inserted for a period in a DVC® rack not enabled to push data to the DVC® Analytics, the corresponding data are missing in the chart, but a specific new message appears on top of the chart too (“invalid rack range detected”).

If you click on “Show it”, a specific pop-up appears to show the valid range of data collection.



#### 1.2 FEATURE #2 – LIGHT DARK BUTTON

New functionality has been added to allow multiple comparisons on diurnal and nocturnal activities performed by the selected animals/cages in a single typical chart.

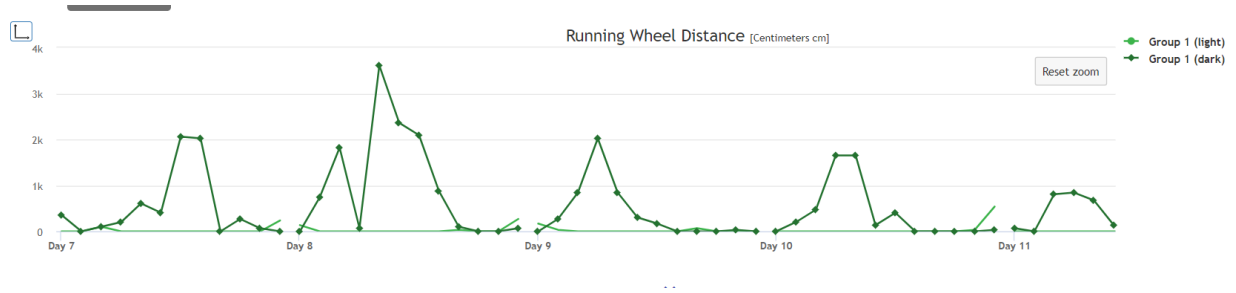
In case you are selecting a “Line” as a chart, a new button called “Night/Day” is available.



**Chart Family**      **Chart Type**      **Data Time Aggregation**

Line    Other    Live    Simple    Cumulative    Light/Dark    Hour    Minute    Custom

Then, aggregating data by "Hour", "Minute" or "Custom", the corresponding graph for the selected metric is shown:



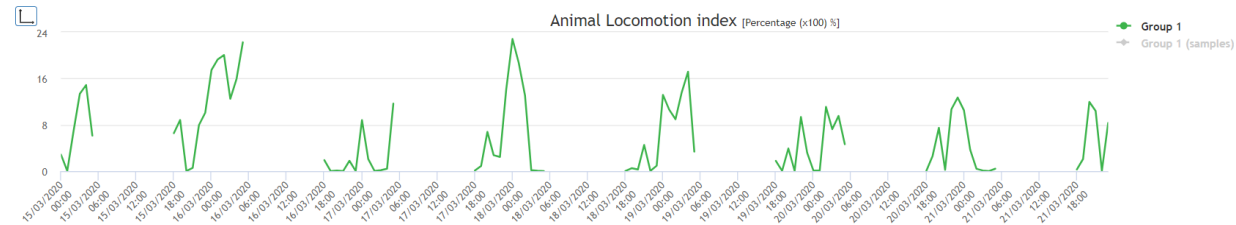
### 1.3 FEATURE #3 – GRAPHICAL INTERPOLATION

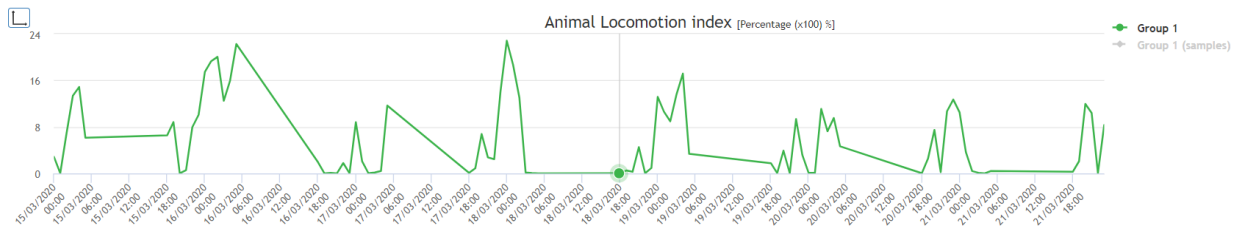
In this last release, we introduced new buttons to force the graphical interpolation of line charts when specific day time filtrations are applied (i.e., light/dark/custom periods). More specifically, we added a small little icon close to all the different "Day Time Filtration" buttons.

#### Day Time Filtration

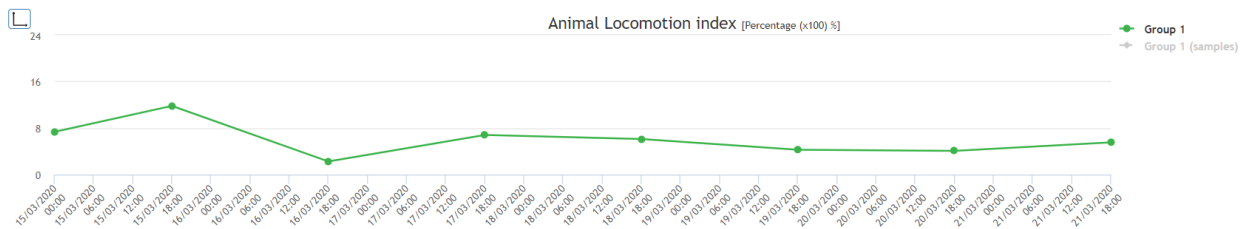
None    Light    Night    Custom

In case the small button is selected, the corresponding line chart is interpolated between consecutive lines.





A very convenient benefit is that the User can leverage on the "Data Time Aggregation" and aggregate data by 12hrs for instance (if the night lasts 12 hours) and get a general full nocturnal pattern across days:



## 2 ENHANCEMENTS

In this section, there are highlighted some current enhancements that are affecting already existing features that are improved by the present new release proposed.

### 2.1 ENHANCEMENTS #1 – MASTER-SERVER CONNECTION (R)ESTABLISHED

In this latest release, we implemented a different way of managing DVC® Master disconnections from the DVC server. Disconnections can occur basically for two different reasons:

- 1- DVC® Master <-> DVC® Server network is down
- 2- DVC® Master is down

In the first case, once the network is back to regular running, the DVC® Master, which has internally stored all the data, will automatically push them recovering the missing data in the DVC® Analytics platform.

In the second case, it will send an event of cage inserted when it is back online and, consequently, also an event of DVC® Master offline at the initial time of the stop of the data collection.



### 2.2 ENHANCEMENTS #2 – TIMESTAMP IN LOCAL TIME

The timestamp of downloaded data is expressed in the local time of the Facility (and not anymore in UTC).



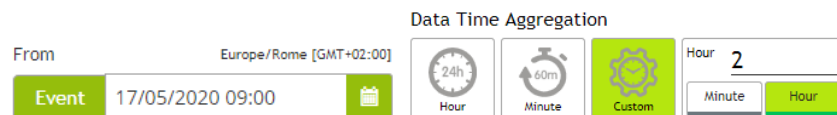
## 3 BUG FIXES

This section refers to bugs that have been fixed by the current release. There are some potential bugs relating to the overall infrastructure that are not here reported because "invisible" to the final User unless these are not critical bugs that are affecting the overall workflow.

### 3.1 BUGFIXES #1 – TEMPORAL AGGREGATION STARTS FROM THE PROPER SET TIME (NOT YET IN BOXPLOT)

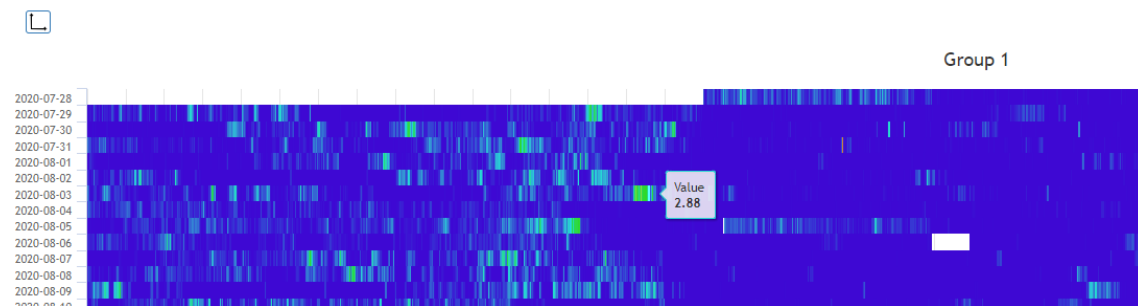
This bug was referring to the fact that the temporal aggregation was always starting from midnight (UTC). From this release, this bug has been fixed, and now it is possible to:

- Aggregate all together the night hours and get a unique data point representative of the entire real night.
- In case you want to start any analysis from a specific time, let's say, from 9 am and aggregate data every 2 hours, it properly follows your request



### 3.2 BUGFIXES #2 – HEATMAP TOOLTIP

In any Heatmap visualization, if you move the mouse over the chart, now you can find the corresponding value of the selected sample

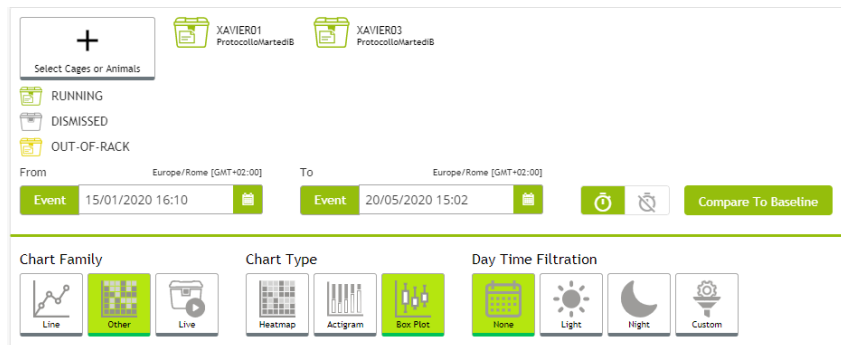


## 4 KNOWN ISSUES AND PROBLEMS

There are currently some open bugs/known issues we would like to share with you and let you carefully handle:

### 4.1 OPEN BUG #1 – NIGHT TEMPORAL AGGREGATION IN BOXPLOT

If you select multiple cages in the same group, it is possible to apply the "Box Plot" Chart Type.



If you apply for Night "Day Time Filtration", the night is not considered as the "real" night from, for instance, from 7 pm to 7 am, but it is calculated as from midnight to 7 am and from 7 pm to midnight. This bug doesn't affect the Light "Day Time Filtration" because it falls all inside the same day of analysis.

#### 4.2 OPEN BUG #2 -CUSTOM DATA TIME AGGREGATION AFFECTS SOME METRICS

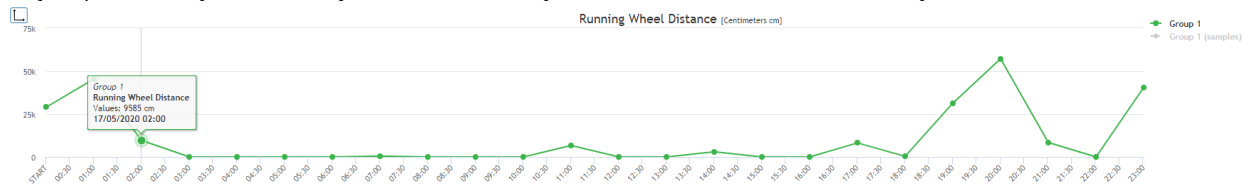
If you want to aggregate data using a custom aggregation, it provides you the average of the data in the selected period (i.e., if you aggregate by 30min, it gives you the average of the 30min for the metric chose, starting from the minute aggregation).

This average calculation doesn't fit some available metrics such as Running Wheel distance, Running Wheel rotations, and Individual Tracking distance.

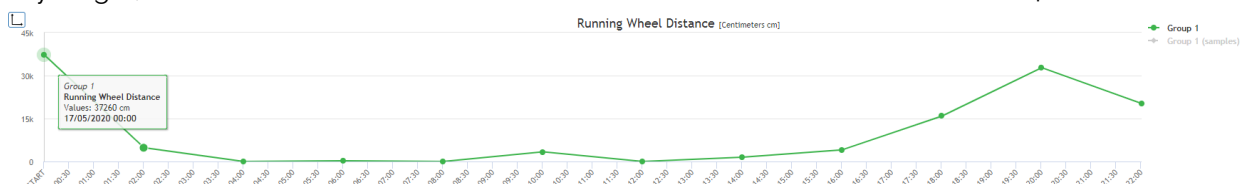
In this case, what the System should provide you are the sum of the data in the corresponding selected period.

Let's explain it with an example.

When you select the standard hour aggregation of a DVC® Running wheel distance data for one entire day, it provides you, hour by hour, how many centimeters have been run by the animal:



If you now aggregate data every 2 hours, you would expect the sum of the data in blocks of 2 hours each. Unfortunately, due to the bug, it calculates the average of 2 hours of each block. So, in the total day length, the sum of the 12 blocks of 2 hours each is different than the sum of the 24 (standard hours).

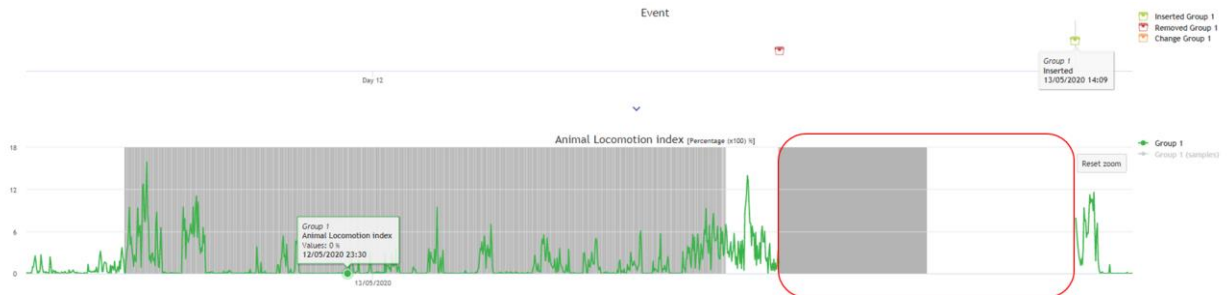


#### 4.3 OPEN BUG #3 -MISLEADING LIGHT REM MISSING DATA

If a cage is extracted for several minutes from the DVC® Rack (or more generically, the data are missing for any reason), consequently, the DVC® data are not displayed (because of missing) as well as the REM data.

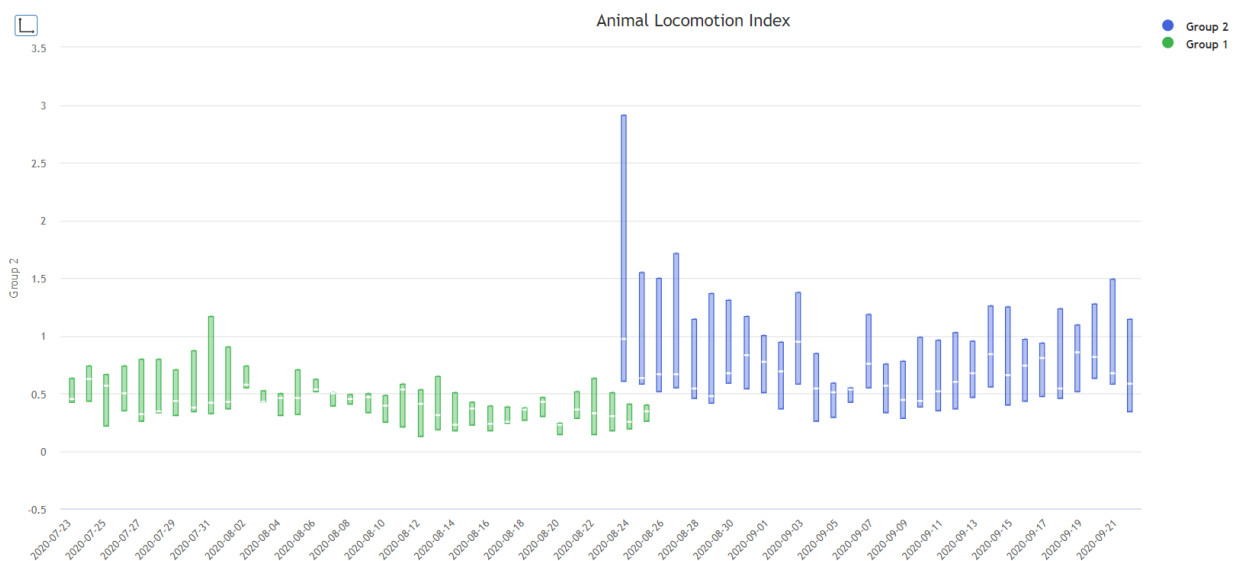


In reality, while the visual representation of the DVC® data is pretty intuitive (data are missing), for the REM data, the empty data block is filled with 2 vertical stripes (grey and white) that are misleading for the User from a REM data visualization perspective.



#### 4.4 OPEN BUG #6 –BOX PLOT NOT ALIGNED ON THE START

In case you are running a box plot comparison between different groups, if the start of the two groups is not the same day, they are shifted in the visual representation:





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